Copyright

© 2001 Proxim, Inc., Sunnyvale, CA. All rights reserved. Covered by one or more of the following U.S. patents: 5,412,687; 5,844,900; 5,875,179; 5,913,174; 6,006,090; and 5,231,634. This manual and the software described in it are copyrighted with all rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form by any means without the written permission of Proxim, Incorporated.

Trademarks

Symphony, Symphony-HRF, the Symphony logo, Symphony Composer, Symphony Conductor, Symphony Maestro, Harmony, RangeLAN2, and Proxim are trademarks of Proxim, Inc. All other trademarks are the property of their respective owners.

Limited Warranty, Disclaimer, Limitation Of Liability

For a period of one (1) year from the date of purchase by the retail customer, Proxim warrants the Symphony-HRF Cordless Gateway against defects in materials and workmanship. If a product is found defective during the warranty period, Proxim will repair or replace the product with the same or a similar model, which may be a reconditioned unit, without charge for parts or labor. Any replaced or repaired product will have either a ninety (90) day warranty, under the conditions described herein, or the remainder of the initial one (1) year warranty, whichever is longer.

Proxim also warrants the media containing the Symphony software against failure for a period of ninety (90) days.

Proxim will not honor this warranty if there has been any attempt to tamper with or remove the product's external foil label. This warranty does not cover and Proxim will not be liable for any damage or failure caused by misuse, abuse, acts of God, accidents, or other causes beyond Proxim's control, or claim by any entity other than the original purchaser.

Symphony-HRF Cordless Gateway User's Manual
Part # 7360.0120
Rev. C

In no event shall Proxim, Inc. be responsible or liable for any damages arising:

- ❑ From the use of the product;
- ❑ From the loss of use, revenue or profit of the product; or
- ❑ As a result of any event, circumstance, action, or abuse beyond the control of Proxim, Inc.;

Whether such damages be direct, indirect, consequential, special, or otherwise and whether such damages are incurred by the person to whom this warranty extends or a third party.

Proxim does not warrant that the functions contained in the products will meet your requirements or that the operation of the Symphony product(s) will be uninterrupted or error free.

Warranty Return Policy

If you have a problem with your Symphony product, please call Proxim Technical Support at (408) 731-2780. Proxim Technical Support will assist with resolving any technical difficulties you may have with your Proxim product. If a Proxim technical representative determines that a product is defective and the product is still in warranty, you will be assigned a Return Material Authorization (RMA) number to authorize its return for repair or replacement. Dated proof of purchase may be required. Package the product appropriately for safe shipment, mark the RMA number on the outside of the package, and ship the package at your expense. Proxim recommends that you insure the package during shipment.

For support of software media, please refer to Proxim's Symphony Web site at **http://www.proxim.com/symphony/**.

Contents

1. Introduction 7

Product Description 8

Symphony-HRF Hardware Products 8

Software Products 8

The Product Package 9

System Requirements 10

Interoperability Between Symphony-HRF and Symphony Products 10

2. Cordless Networking with the Cordless Gateway ... 11

What Is Cordless Networking? 11

Supported Configurations 12

Connectivity to a Cable Modem, DSL Modem, or ISDN Router 12

Connectivity to an Ethernet Network 14

Connectivity to an Ethernet Network That Provides Shared Internet Access 15

Connectivity to a Network Server 17

3. Installing the Symphony Hardware 18

Symphony-HRF Cordless Gateway 18

LED Indicators, Ports, and Buttons 22

Symphony-HRF Adapters 24

Symphony-HRF Cordless PC Card Adapter 24

Symphony-HRF Cordless USB Adapter 26

4. Installing the Symphony Software 28

Pre-installation Considerations 29

Note to Customers Using a Laptop Without a CD-ROM Drive 29

Installation Procedure 30

Windows 98 & Windows ME Installation Steps 30

Windows 2000 Professional Installation Steps 32

Windows 95 Installation Steps 34

Symphony Software Installation Steps 36

5. Symphony Composer Installation Wizard 39

Step 1: Select a Security Code 40

Step 2: Establish Communication with the Cordless Gateway 41

Step 3: Configure TCP/IP Information 44

Step 4: Assign a Computer Name 47

Step 5: Select Drives and Printers to Share 47

Step 6: Configure Switcher Prompt at Boot-up 48

Step 7: Register Symphony Products 49

Step 8: Configure PPPoE Parameters 50

Step 9: Establish Communication with an Ethernet Network 50

6. Symphony Maestro Configuration Tool 51

Maestro Features for the Cordless Gateway 52

Monitor the State of the Cordless Gateway 52

Configure the Cordless Gateway to Allow Internet Sharing 53

Upgrade the Symphony-HRF Cordless Gateway 53

Monitor the Cordless Gateway's Status 53

Maestro Networking Features 54

Obtain Network Status Information 54

Test Cordless Connection 55

Configure Network Parameters 56

Remote Drive Sharing 57

Launch the Symphony Location Switcher 58

Maestro Administrative Features 58

Determine Software Version in Use 58

Register Products on Proxim's Web Site 58

7. Configuring a Cordless Gateway Network 59

Cordless Gateway Topologies 59

Understanding Network Address Translation (NAT) 59

Understanding Transparent Bridging 60

Determining the Cordless Gateway's Topology Parameter 60

Configuring the Topology Parameter 62

Configuring a Cordless Network to Use NAT 63

Configuring the ISP TCP/IP Settings 63

Configuring the Internal TCP/IP Settings 70

TCP/IP Configuration for Cordless Computers in NAT Topologies .. 73

Configuring a Cordless Network to Use Transparent Bridging 75
  Configuring TCP/IP Settings for the Cordless Gateway 76
  TCP/IP Configuration for Cordless Computers in Transparent Bridging Only Topologies 76
Configuration Examples 85
  A Cordless Gateway Connected Directly to a Cable Modem, DSL Modem, or ISDN Router 85
  A Cordless Gateway Connected to an Ethernet Network That Has Shared Internet Access or If Internet Access Is Not Required 86
  A Cordless Gateway Connected to an Ethernet Network That Has Limited Internet Access 88
  A Cordless Gateway Connected to a Network with a Server 89
File Sharing 90
  Remote Drive Sharing 93
Printer Sharing 96
  Designating a Network Printer as the Default Printer 101

8. Symphony Location Switcher 103
Switching Between Profiles 106
Editing a Profile 107
Creating and Deleting Profiles 112
Examples of When to Use Profiles 113
  Moving a Laptop Computer From the Home to the Office 113
  Moving a Laptop Computer From the Office to the Home 114

9. Adding a New Product to a Cordless Network 115
Adding a New Computer to a Cordless Network 115
Adding a Symphony-HRF Cordless Gateway to a Cordless Network . 115

10. Upgrading Symphony Software 117
Upgrading the Symphony-HRF Cordless Gateway's Firmware 117
  Method 1: Upgrade from the Symphony Web Site 117
  Method 2: Upgrade from Disk 119
Upgrading a Symphony Adapter's Software 122

11. Uninstalling Symphony Software 124

12. Troubleshooting 126
Interoperability Between Symphony-HRF and Symphony Products .. 126
Application Hints 128
Range of Symphony-HRF Products 128
Reducing Interference 128
Home Network Security 128
Accessing E-Mail 129
Playing Games Over the Home Network 130
Sharing Software Applications 130
Sharing a Scanner with the Home Network 130
Frequently Asked Technical Support Questions 131
Operational Issues 131
General Questions 134

A. Advanced Symphony Parameters 135
Station Type 135
Master Name 136
Channel and Subchannel 136
MAC Optimize 136
Inactivity Timeout 136
Protocol Type 137

B. How to Reach Technical Support 138

C. U.S. Specifications 139

D. Regulatory Information 140

Index 141

1. Introduction

Thank you for purchasing Proxim's Symphony-HRF Cordless Gateway, a member of the Symphony Cordless Networking Suite. Proxim has been a market leader in the wirefree networking industry for over ten years providing award-winning wirefree technology to companies and individuals around the world. You can expect this same reliability from the Symphony Cordless products in your home and/or small office.

The Symphony-HRF Cordless Gateway interoperates with Symphony and/or Symphony-HRF adapters to deliver reliable, hassle-free networking for your laptops and desktops without the use of wires or cables. With the addition of the Cordless Gateway to a Symphony Cordless Network, you can provide high-speed Internet access to cordless computers from a cable modem, DSL modem, or ISDN router or you can connect cordless computers to an existing Ethernet Local Area Network (LAN).

With the Symphony Cordless Networking Suite, laptops become free of wires and cables so you can check e-mail, surf the Internet, or exchange files from anywhere in your home or backyard! Desktop computers in hard to wire locations can now enjoy connectivity with the rest of the network.

This manual provides all of the information necessary to install and configure not only the Symphony-HRF Cordless Gateway, but also the Symphony-HRF or Symphony adapters that you will use in conjunction with this device. However, you may want to refer to the manual that shipped with each adapter for detailed installation and troubleshooting instructions.

Product Description

The Symphony-HRF Cordless Gateway is a member of the Symphony Cordless Networking Suite, a family of products which provides a complete cordless networking solution for the home or small office.

Symphony-HRF Hardware Products

- ☐ **The Symphony-HRF Cordless PC Card Adapter** fits into a laptop computer's PCMCIA Type II socket that supports 3.3-volt PC Cards. When installed, the Symphony-HRF PC Card can communicate with other Symphony-HRF products or with Symphony products to create a cordless network in your home or small office. The PC Card ships with an antenna that attaches to the side of the card.

- ☐ **The Symphony-HRF Cordless USB Adapter** connects to a computer's USB (Universal Serial Bus) port. When installed, the Symphony-HRF USB Adapter can communicate with other Symphony-HRF products or with Symphony products to create a cordless network in your home or small office. The Symphony-HRF USB Adapter has a built-in antenna and includes a six-foot cable to connect the adapter to a computer's USB port.

- ☐ **The Symphony-HRF Cordless Gateway** attaches to an external Ethernet device to provide Internet access to the cordless network over high-speed connections using ISDN, DSL, service from a local cable company, or a similar access medium. The Cordless Gateway may also attach to a small Ethernet LAN to provide network connectivity between Ethernet nodes and cordless computers equipped with either Symphony-HRF or Symphony adapters.

Software Products

Proxim ships several software tools with the Symphony-HRF adapters to make installation and configuration simple and hassle-free.

- ☐ **The Symphony Composer Installation Wizard** guides the user through the setup and configuration of a Symphony Cordless Network during the initial installation or following an upgrade from an earlier version of the Symphony software. The Composer Installation Wizard is described in Chapter 5.

❑ **The Symphony Maestro Configuration Tool** allows the user to configure the settings and monitor the status of the Symphony Cordless Network. The Maestro Configuration Tool is described in Chapter 6.

❑ **The Symphony Conductor Modem Sharing Software** allows one computer to share its installed modem or Ethernet card with other computers on the cordless network.

❑ **The Symphony Location Switcher** provides a fast and convenient way to move a cordless computer between different locations by storing Internet and network configurations for multiple networks. A user may switch between locations with a single keystroke during boot-up. The Location Switcher is described in Chapter 8.

Proxim also offers Symphony accessory products, such as an additional antenna option for the Symphony-HRF PC Card and spare parts. Refer to the Symphony Web site at **http://www.proxim.com/symphony/** for additional information.

The Product Package

Each Symphony-HRF Cordless Gateway comes with the following:

❑ One (1) Symphony-HRF Cordless Gateway

❑ One (1) 5 Volt, 1 Amp power adapter

❑ One (1) five-foot 10Base-T cable (straight through)

❑ One (1) Symphony-HRF Cordless Gateway Quick Start Guide

❑ One (1) *Symphony-HRF Cordless Gateway User’s Manual*

System Requirements

In order to use a Symphony-HRF Cordless Gateway, you must have the following:

- ☐ An external, Ethernet-ready device that provides high-speed Internet access, such as a cable modem, DSL modem, or ISDN router (one of these devices is required to share Internet access)

OR

- ☐ A 10Base-T Ethernet hub or a computer with an Ethernet card already installed (one of these devices is required to communicate with an Ethernet network)
- ☐ An account with an ISP (Internet Service Provider); this is required to share Internet access with the cordless network
- ☐ At least one Symphony-HRF or Symphony adapter installed in a computer running Windows 95, Windows 98, Windows ME, or Windows 2000 Professional with a minimum 486/66 MHz processor, a minimum of 16 MB of RAM, and a minimum of 10 MB of hard disk space available

Note:
The Symphony software does not support Windows 2000 Server.

Interoperability Between Symphony-HRF and Symphony Products

Proxim’s Symphony-HRF products support both the HomeRF standard and the OpenAir standard (which is used by Proxim’s RangeLAN2 and original Symphony product lines).

A Symphony-HRF Cordless Gateway will automatically determine whether the cordless network is using HomeRF or OpenAir and use the appropriate protocol. Therefore, a Cordless Gateway is fully interoperable with Proxim’s Symphony adapters that use the OpenAir protocol.

See Chapter 12 for more information on interoperability between Symphony-HRF, Symphony, RangeLAN2, and HomeRF-certified products available from other manufacturers.

2. Cordless Networking with the Cordless Gateway

What Is Cordless Networking?

A “network” is two or more computers physically connected to each other. For example, if you connect two computers together with a cable, you have created a network. The two computers will communicate with each other over the cable. Networking technology enables two or more PCs, located throughout your home or small office, to communicate. With a network in your home or small office, you can:

- ☐ Share Internet access so family members may surf the Internet at the same time using a single connection;
- ☐ Print to a printer that is connected to another computer on the network;
- ☐ Access and transfer files on the hard drive of any computer that is a member of the network; and
- ☐ Play multiplayer games.

The term, “cordless,” refers to communication that occurs over radio waves rather than over a cable. A cordless telephone is identical to a telephone except the handset communicates to the base station over radio waves rather than over a telephone cord.

Like a cordless telephone, a cordless network uses radio signals instead of a cable to exchange information. Thus a cordless network alleviates the need for expensive and intrusive wiring within the home to connect computers. It also allows mobile users to remain connected to the network even when a laptop is carried around the home or taken into the backyard.

Symphony-HRF and Symphony adapters create a cordless network between each computer in a household using standard networking software included with Windows. This network links the computers together so that they can share files, printers, and other peripheral devices, such as CD-ROM drives, floppy disk drives, or Iomega Zip drives. With the addition of a Symphony-HRF Cordless Gateway to the cordless network, the Symphony-HRF and Symphony adapters can also communicate with a small existing Ethernet network or share high-speed Internet access.

Supported Configurations

The Cordless Gateway provides a cordless solution for a wide variety of small networking environments, including these four supported configurations:

- ☐ Cordless connectivity to a cable modem, DSL modem, or ISDN router;
- ☐ Cordless connectivity to an existing Ethernet network;
- ☐ Cordless connectivity to an existing Ethernet network that provides shared Internet access; and
- ☐ Cordless connectivity to a network server.

Each configuration is described in detail below. Also, see Chapter 7 for more information on how to configure the cordless network in each of these scenarios.

Connectivity to a Cable Modem, DSL Modem, or ISDN Router

The Symphony-HRF Cordless Gateway can communicate with an external Ethernet device to share high-speed Internet access with each computer on the cordless network.

Figure 1 illustrates an example of this networking configuration. The diagram shows a Symphony-HRF Cordless Gateway connected to a cable modem with an Ethernet cable.

The Cordless Gateway links the high-speed Internet device and the cordless computers, so that each computer (laptops and desktops) on the cordless network has simultaneous Internet access and can share files and printers.

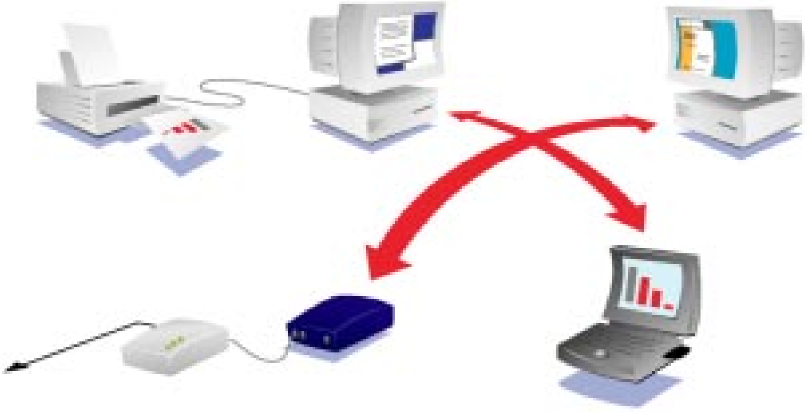


Figure 1
Cordless Network Sharing High-Speed Internet Access

To use the Cordless Gateway in this configuration, you need an account with an Internet Service Provider (ISP) and one of the following pieces of equipment that you will connect directly to the Cordless Gateway with a 10Base-T Ethernet cable:

- ☐ An external cable modem;
- ☐ An external DSL device, such as an ADSL modem;
- ☐ An ISDN router; or
- ☐ Any other external Ethernet device that can provide high-speed Internet access to a network.

Note that these devices must be external, stand-alone units that support 10 Mbps Ethernet and have an RJ-45 10Base-T connector; devices which use a different networking technology, such as ATMF-25, will not communicate with the Cordless Gateway. For a similar reason, ISDN terminal adapters cannot be used with the Cordless Gateway because they do not communicate over Ethernet and do not have a 10Base-T Ethernet port.

In this configuration, the Cordless Gateway performs a function known as Network Address Translation or NAT. The ISP assigns a single IP address to the Cordless Gateway, and NAT allows up to ten (10) cordless computers to access the Internet at the same time using this single address assignment.

The Cordless Gateway acts as an intermediary and sends data between the Internet and the computers on the Symphony Cordless Network.

By default, the Cordless Gateway is configured to accept a dynamic IP address from a DHCP (Dynamic Host Configuration Protocol) server.

If your ISP uses static IP addressing or PPPoE, then you will need to configure the Cordless Gateway with the account information assigned to you by the ISP.

See Chapter 7 for more information on how to configure the Cordless Gateway's TCP/IP parameters.

Connectivity to an Ethernet Network

If you have a small network already in your home or office, you can connect the Symphony-HRF Cordless Gateway directly to an Ethernet cabling hub in order to provide connectivity between computers on the cordless network and nodes on the wired Ethernet, as shown in Figure 2 below.

The Cordless Gateway transparently links the two networks so that to each node there appears to be only one network. This function is known as Transparent Bridging.

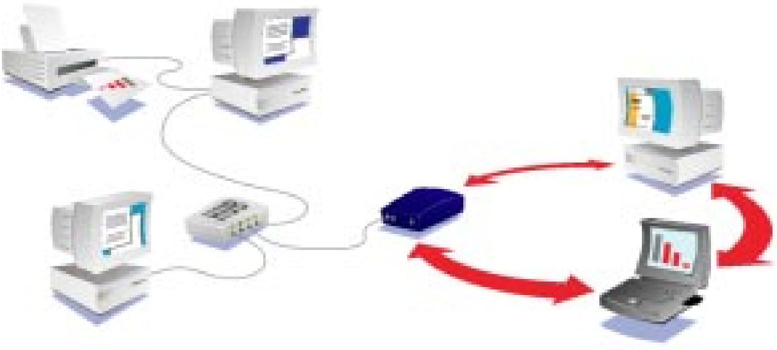


Figure 2
Cordless Network with Connectivity to a Wired Ethernet Network

Simply connect the Cordless Gateway to a 10Base-T cabling hub using the 10Base-T cable included in the product package.

In this configuration, each Ethernet and cordless computer will have the ability to share files and printers with the all other members of the cordless and Ethernet networks.

For example, if you have an existing wired Ethernet, you may add a Cordless Gateway to give network connectivity to a laptop that has a Symphony-HRF PC Card installed.

By default, the Cordless Gateway performs both Network Address Translation (NAT) and Transparent Bridging. Depending on the configuration of your network, you may want to disable the NAT function.

See Chapter 7 for information on how to configure the Cordless Gateway and for more information on File and Printer Sharing.

Note:

The Cordless Gateway is designed to provide connectivity to small Ethernet networks. It cannot support more than eight (8) devices on its Ethernet port. Do NOT connect the Cordless Gateway to a cabling hub that has more than eight (8) Ethernet devices attached.

Connectivity to an Ethernet Network That Provides Shared Internet Access

As discussed above, a Cordless Gateway can link a Symphony Cordless Network to a wired Ethernet network.

In addition, if you have an existing device on the Ethernet network that provides high-speed Internet access to each of the Ethernet workstations, then the cordless computers will also be able to share this Internet connection. Examples of high-speed devices include a cable modem, a DSL modem, or an ISDN router.

Figure 3 illustrates how a Cordless Gateway may be used to connect a cordless network to a small, wired Ethernet network.

The Ethernet hub in the diagram has three devices attached: an Ethernet-ready desktop computer, a DSL modem, and a Cordless Gateway.

The presence of the Cordless Gateway allows the two networks to be linked together sharing Internet access as well as files and printers.

Note:

The Cordless Gateway is designed to provide connectivity to small Ethernet networks. It cannot support more than eight (8) devices on its Ethernet port. Do NOT connect the Cordless Gateway to a cabling hub that has more than eight (8) Ethernet devices attached.

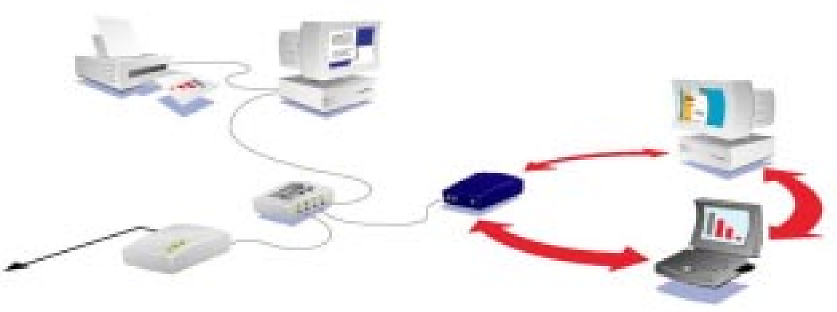


Figure 3
Cordless Network and Wired Network
Sharing High-Speed Internet Access

Simply connect the Cordless Gateway to a 10Base-T cabling hub using the 10Base-T cable included with the product.

In this configuration, the Cordless Gateway may perform Network Address Translation (NAT), Transparent Bridging, or both.

By default, the Cordless Gateway will perform both tasks, but depending on your network configuration, you may wish to change this setting within the Symphony Maestro Configuration Tool.

For example, if you already have an Internet-sharing software package, such as a proxy server program, installed on the network, you may configure the

Cordless Gateway to perform Transparent Bridging only and then configure the cordless computers with TCP/IP settings that match the TCP/IP settings of the workstations on the existing Ethernet network.

Refer to Chapter 7 for information on how to configure the Cordless Gateway and for a discussion of suggested TCP/IP configurations for your network.

Connectivity to a Network Server

You may also connect the Cordless Gateway to an existing Ethernet network that contains a network server (such as a Windows 2000 server) to allow the cordless computers to act as network clients.

Simply connect the Cordless Gateway to a 10Base-T cabling hub using the 10Base-T cable included with the product.

In this configuration, cordless computers should have the same client/server and file sharing capabilities as any existing Ethernet clients on the network.

The Cordless Gateway performs Transparent Bridging to link the two networks so that to each node there appears to be only one local area network (LAN).

By default, the Cordless Gateway performs both Network Address Translation (NAT) and Transparent Bridging. Depending on the configuration of your network, you may want to disable the NAT function.

See Chapter 7 for information on how to configure the Cordless Gateway.

Note:
The Cordless Gateway is designed to provide connectivity to small Ethernet networks. It cannot support more than eight (8) devices on its Ethernet port. Do NOT connect the Cordless Gateway to a cabling hub that has more than eight (8) Ethernet devices attached.

In addition, if you do not have an existing network and only want to connect cordless clients to one stand-alone server, you can also attach the Cordless Gateway directly to the server. Simply use the supplied Ethernet cable to connect the Cordless Gateway’s 10Base-T Port II to an Ethernet card installed in the server. You will have the same functionality between the server and cordless clients as described above.

3. Installing the Symphony Hardware

The installation of a cordless network that includes a Symphony-HRF Cordless Gateway occurs in three phases:

Phase 1: Install the Symphony-HRF Cordless Gateway and a Symphony-HRF or Symphony adapter in each computer that you want to communicate with the cordless network. This phase is described in this chapter.

Phase 2: Install the Symphony software for each Symphony-HRF and Symphony adapter installed in Phase 1. This phase is described in Chapter 4.

Phase 3: Configure the cordless network to communicate with the Cordless Gateway using the Symphony Composer Installation Wizard. This phase is described in Chapter 5.

This chapter describes the step-by-step procedure for the physical installation of the Symphony-HRF Cordless Gateway, Symphony-HRF PC Card, and Symphony-HRF USB Adapter.

If you are installing a Symphony Cordless PC Card, Symphony Cordless PnP ISA Card, or Symphony Cordless PCI Card, refer to the manual that shipped with the card for installation instructions.

Symphony-HRF Cordless Gateway

The Symphony-HRF Cordless Gateway is a stand-alone device which requires no software installation.

Also, the Cordless Gateway has a built-in antenna so the antenna does not require separate installation.

The Cordless Gateway is shown in Figure 4.

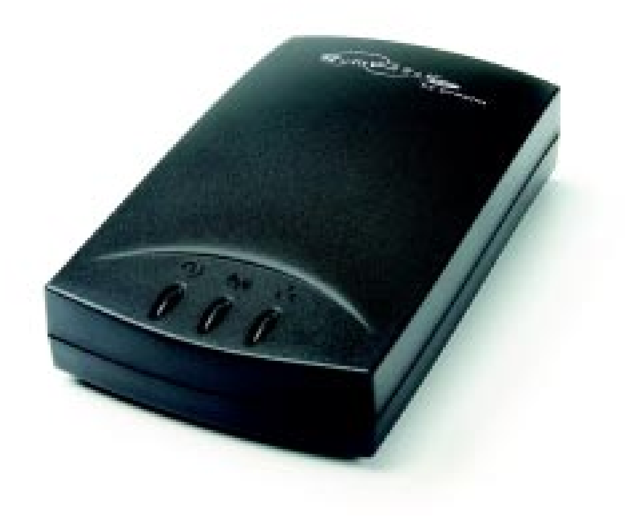


Figure 4
Symphony-HRF Cordless Gateway

Follow these steps to install the Cordless Gateway:

1. Determine the best location for the Cordless Gateway. Keep in mind the following considerations:

   - ☐ If you intend to use the 10Base-T cable included with the product, the distance between the Cordless Gateway and the 10Base-T port of the hub, high-speed Internet device, or other Ethernet-ready device cannot exceed the length of the cable.

   - ☐ If you intend to use your own 10Base-T cable rather than the one supplied, the cable must not exceed 100 meters.

- ☐ You should try to place the Cordless Gateway on a flat, sturdy surface as far from the ground as possible, such as on top of a desk or bookcase, keeping clear of metal obstructions and away from direct sunlight.

- ☐ You should try to centrally locate the Cordless Gateway so that it will provide coverage to all of the computers on the cordless network.

- ☐ The distance between the Cordless Gateway and a wall outlet cannot exceed the length of the power adapter’s cable.

2. Attach one end of the 10Base-T Ethernet cable, provided in the product package, to the 10Base-T port labeled **I** on the back of the Cordless Gateway and attach the other end to the 10Base-T port of an Ethernet device.

Note:
Make sure that the Ethernet device is powered on before proceeding.

3. Attach one end of the supplied AC power adapter to the back of the Cordless Gateway and the other end to the wall outlet.

Note:
Use the Symphony-HRF Cordless Gateway only with the power adapter supplied by Proxim with the product. Using another power supply may damage the Symphony-HRF Cordless Gateway.

The three LEDs on the top of the Cordless Gateway will momentarily light up. Also, the Power Indicator LED may turn off momentarily while the Cordless Gateway searches for a cordless network to join. The unit is operational when the Power Indicator LED is the only LED on the top of the unit that is lit up.

In addition, the Cordless Gateway’s green Link LED, located to the left of the 10Base-T connectors, should light up.

4. If the Link LED is on, proceed to Step #10. If the Link LED is **not** on, proceed to Step #5.

5. Remove the connector plug from the 10Base-T port labeled **II**.

6. Remove the Ethernet cable from 10Base-T port I and insert the cable into 10Base-T port II.

The Link LED should now light up.

7. If the Link LED is on, proceed to Step #9. If the Link LED is **not** on, proceed to Step #8.

8. If the Link LED does not turn on when the Ethernet cable is connected to either 10Base-T port I or 10Base-T port II, try the following:

   - ☐ Confirm that both the Cordless Gateway and the attached Ethernet device are powered up and operational.

   - ☐ Try using another 10Base-T cable, if available.

   - ☐ Try connecting the Ethernet cable to another 10Base-T port on the Ethernet device.

   - ☐ Contact Symphony Technical Support for assistance if none of these suggestions solve the problem.

Note:
Do not proceed with the installation until the Link LED is on.

9. Insert the connector plug into 10Base-T port I.

10. Proceed with the installation or software update of the other Symphony products in your home or small office following the instructions in Chapters 4 and 5.

The Symphony-HRF Cordless Gateway must remain powered on during the installation of the other Symphony products.

Note:
If the Cordless Gateway is not powered on when installing or updating the other Symphony components on the cordless network, you will have difficulty configuring other Symphony products.

LED Indicators, Ports, and Buttons

The Symphony-HRF Cordless Gateway has four functional LEDs: three on the top of the unit and one on the back panel. The LEDs on the top panel, as shown in Figure 5 below, perform the following functions:

- The **Power Indicator LED** or Status LED (which is located on the left side when the unit is orientated so that you can read the Symphony logo) turns green when the unit is powered on and operational. This LED will remain off during boot-up while the Cordless Gateway searches for a HomeRF or OpenAir network to join. If the Cordless Gateway cannot locate an existing HomeRF or OpenAir network, it will start a new HomeRF network. During the search process, the Power Indicator LED may remain off for as long as 12 seconds.

- The **Cordless Network Activity LED** (located in the center of the three LEDs) blinks green when the Cordless Gateway receives data from the cordless network.

- The **Ethernet LED** (on the left side) blinks green when the Cordless Gateway receives data over the 10Base-T Ethernet connection.

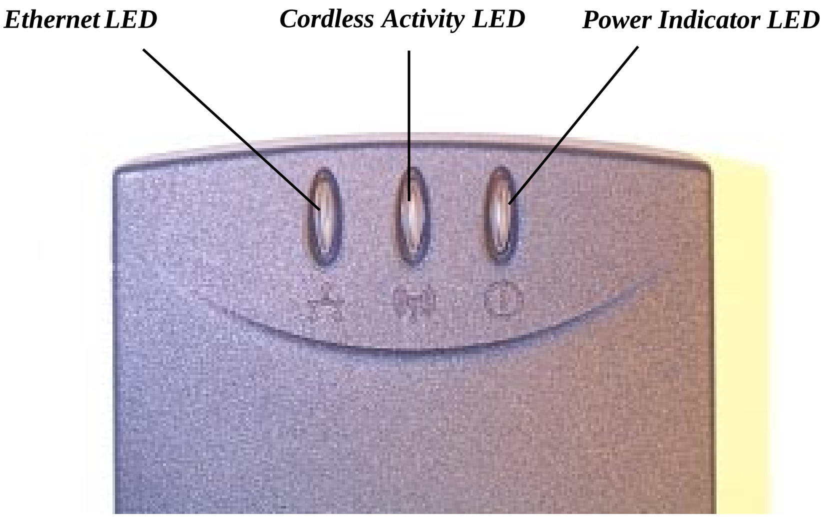


Figure 5
Top Panel LEDs

The LED on the back panel, shown in Figure 6 below, performs the following function:

- The green **Link LED**, located to the left of the 10Base-T ports, lights up when a physical connection exists between the Cordless Gateway and an attached Ethernet device. The LED will not light up if a damaged or improper 10Base-T cable is attached.

The Cordless Gateway has several ports and buttons on its back panel, as shown in Figure 6. Each port and button is described below:

- **10Base-T Port I:** This port is wired like a standard NIC (network interface card). Use a standard 10Base-T cable to connect Port I to an Ethernet hub or to device wired like an Ethernet hub, such as a cable modem or DSL modem.

- **10Base-T Port II:** This port is wired like an Ethernet hub. Use a standard 10Base-T cable to connect Port II to a stand-alone PC or to a device wired like an Ethernet NIC (network interface card).

Note:
Use either 10Base-T Port I or 10Base-T Port II. You cannot use the two 10Base-T ports simultaneously.

- **Teach button:** When this button is pressed, the Cordless Gateway will send out a notification that allows other Symphony products that are operating in learn mode to join the cordless network.

- **Learn button:** When this button is pressed, the Cordless Gateway will enter learn mode to listen for network information from another Symphony product that is operating in teach mode.

Note:
Do not press either the Teach or Learn button unless directed to do so by the Symphony Composer Installation Wizard or by a Symphony Technical Support representative.

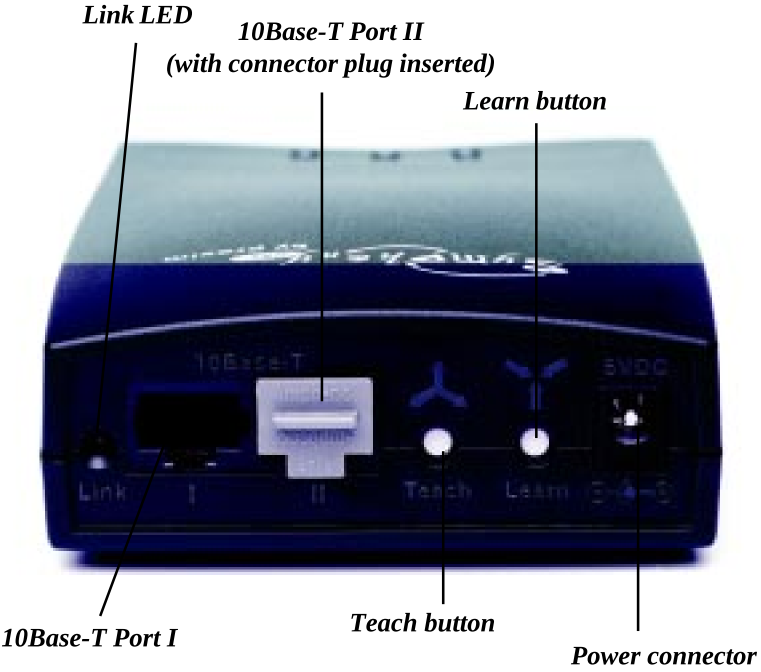


Figure 6
Back Panel LEDs

Symphony-HRF Adapters

Symphony-HRF Cordless PC Card Adapter

The Symphony-HRF Cordless PC Card fits into a standard Type II PCMCIA slot in your computer. The PC Card and antenna are shown in Figure 7.

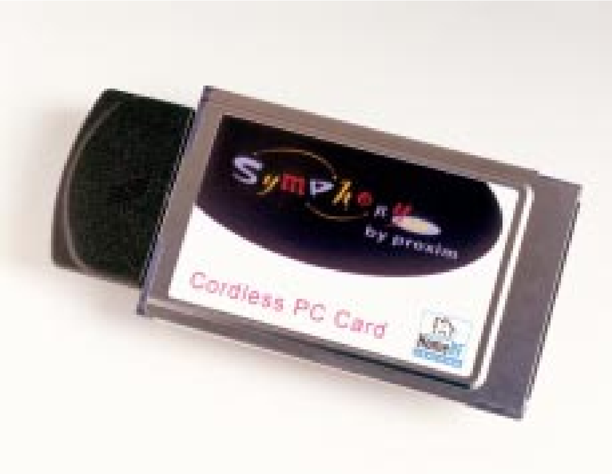


Figure 7
Symphony-HRF Cordless PC Card and Antenna

Follow these steps to install the PC Card and the antenna:

1. If the antenna is not already connected, locate the antenna connector on the end of the PC Card.

2. Attach the snap-on antenna to the PC Card's antenna connector (if not already connected).

3. Shut down the laptop computer.

4. Insert the PC Card into the laptop computer.

5. Turn on the laptop computer and refer to the software installation procedure described in Chapter 4.

Caution:

If you cannot insert the Symphony-HRF PC Card into the laptop's PCMCIA slot, contact the laptop's manufacturer to determine if the laptop supports 3.3-volt PC Cards. Your laptop's PCMCIA slot must support 3.3 volts in order to use the Symphony-HRF PC Card Adapter.

Symphony-HRF Cordless USB Adapter

The Symphony-HRF Cordless USB Adapter is easy to install.

The USB Adapter has a built-in antenna so the antenna does not require separate installation. Also, the USB port powers the adapter so the USB Adapter does not require a power cable.

The USB Adapter is shown in Figure 8 below.

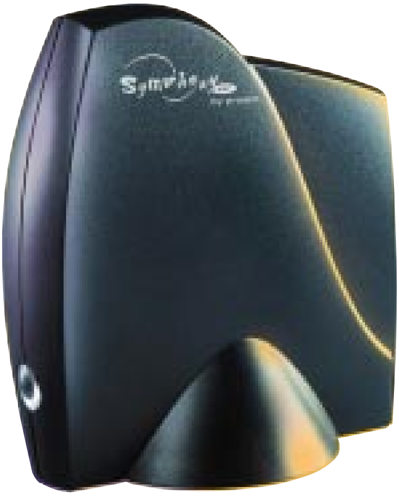


Figure 8
Symphony-HRF Cordless USB Adapter

Follow these steps to install the Symphony-HRF Cordless USB Adapter:

1. Shut down the computer.

2. Place the USB Adapter on top of your desk, computer, or monitor.

3. Connect the USB Adapter's cable to one of the computer's USB ports. If you cannot identify a USB port, refer to the documentation that came with the computer for more information.

4. Turn on the computer and refer to the software installation procedure described in Chapter 4.

LED Indicator

The Symphony-HRF USB Adapter includes an LED on the front of the unit that changes in appearance to reflect radio activity.

The USB Adapter's LED has five states:

- ☐ The LED is off when the USB Adapter is not connected to a USB port or when it is not receiving power from the computer.
- ☐ The LED is yellow when the USB Adapter is not installed or when the device is initializing.
- ☐ The LED is green when the USB Adapter is installed and operational.
- ☐ The LED flickers green when the USB Adapter receives information from another cordless device.
- ☐ The LED flickers yellow when the USB Adapter is transmitting information to another cordless device.

4. Installing the Symphony Software

The installation of a cordless network that includes a Symphony-HRF Cordless Gateway occurs in three phases:

Phase 1: Install the Symphony-HRF Cordless Gateway and a Symphony-HRF or Symphony adapter in each computer that you want to communicate with the cordless network, as described in Chapter 3.

Phase 2: Install the Symphony software for each Symphony-HRF and Symphony adapter installed in Phase 1. This phase is described in this chapter.

Phase 3: Configure the cordless network to communicate with the Cordless Gateway using the Symphony Composer Installation Wizard. This phase is described in Chapter 5.

The Symphony-HRF Cordless Gateway requires no software installation. However, you must load Symphony software on each computer in which you installed a Symphony-HRF or Symphony adapter.

The following procedure provides an overview of how to install the software for a Symphony-HRF PC Card and Symphony-HRF USB Adapter on a Windows 95, Windows 98, Windows Millennium Edition (ME), or Windows 2000 Professional computer.

For detailed instructions and troubleshooting suggestions, refer to Chapters 4 and 12 of the manual that came with the Symphony-HRF PC Card and/or Symphony-HRF USB Adapter.

If you are installing a Symphony Cordless PC Card, Symphony Cordless PnP ISA Card, or Symphony Cordless PCI Card, refer to the manual that shipped with the card for installation instructions.

If you choose to refer to another manual for software installation instructions, refer back to Chapter 5 of this manual for configuration instructions once the software has been successfully installed for each Symphony-HRF and Symphony adapter on the cordless network.

Pre-installation Considerations

Before beginning the installation of a Symphony-HRF adapter, confirm that you have a Windows CD or diskettes available (either Windows 95, Windows 98, or Windows ME depending on the computer's operating system). You may be prompted to insert a Windows CD during the installation.

You should not need a Windows CD when installing a Symphony adapter on a Windows 2000 Professional computer.

If you do not have a Windows 95/98/ME CD or diskettes, it is possible that you already have the Windows installation files on your hard disk. These Windows installation files are known as Windows Cabinet or CAB files. The Windows Cabinet files are commonly located in *C:\WINDOWS\OPTIONS\INSTALL\* or *C:\WINDOWS\OPTIONS\CABS\*.

Note:

You may need the Windows CD, diskettes, or Cabinet files to complete the installation of the Symphony-HRF adapter. Proxim recommends that you do not proceed with the installation until you have confirmed that you have one of these Windows installation media available.

Note to Customers Using a Laptop Without a CD-ROM Drive

If you are installing a Symphony-HRF PC Card in a laptop that does not contain a CD-ROM drive or if your CD-ROM drive is an external device that shares a single PCMCIA slot with network adapter cards, you should follow the steps below prior to installing the Symphony software:

1. Confirm that the Windows cabinet (CAB) files are installed on the computer (if running Windows 95/98/ME). The CAB files are typically located in *C:\WINDOWS\OPTIONS\INSTALL\* or *C:\WINDOWS\OPTIONS\CABS\*.

2. If the Windows 95/98/ME computer does not have the CAB files installed, copy the *Win95, Win98,* or *Win9x* folder, found on the Windows CD-ROM, to a temporary folder on the computer.

3. Copy the contents of the Symphony Installation CD-ROM to a temporary folder on the computer. Alternatively, you may download the Symphony software from the Symphony Web site at **http://www.proxim.com/symphony/**.

4. Follow the installation instructions contained in this chapter. When the instructions call for either the Windows CD or the Symphony Installation CD, direct the installation wizard to search the temporary folders you created in Steps #2 and 3 above.

5. When the installation is complete, remove the temporary folders you created in Steps #2 and 3 above from the computer's hard drive.

Installation Procedure

Refer to the section below that corresponds to your computer's operating system. Then, refer to the section entitled "Symphony Software Installation Steps" for additional installation assistance.

Windows 98 & Windows ME Installation Steps

Follow these steps to install the Symphony software on a Windows 98 or Windows ME computer:

1. Install the Symphony-HRF adapter as described in Chapter 3.

2. Turn on the computer.

When the Symphony-HRF adapter is inserted for the first time, the Windows operating system will automatically detect the card as a new device and run the Add New Hardware Wizard.

Windows will recognize the Symphony-HRF USB Adapter as a **HomeRF Adapter** and the Symphony-HRF PC Card as a **HomeRF-LAN PC CARD**.

3. Insert the Symphony Installation CD into the computer's CD-ROM drive.

4. For Windows 98 computers, click <**Next**> to continue.

5. When prompted, select **Automatic search for a better driver** (Windows ME) or **Search for the best driver for your device** (Windows 98), and click <**Next**>.

6. For Windows 98 computers, check the box labeled **CD-ROM drive**, and click <**Next**> to continue.

The Add New Hardware Wizard will locate the driver file for the Symphony-HRF adapter.

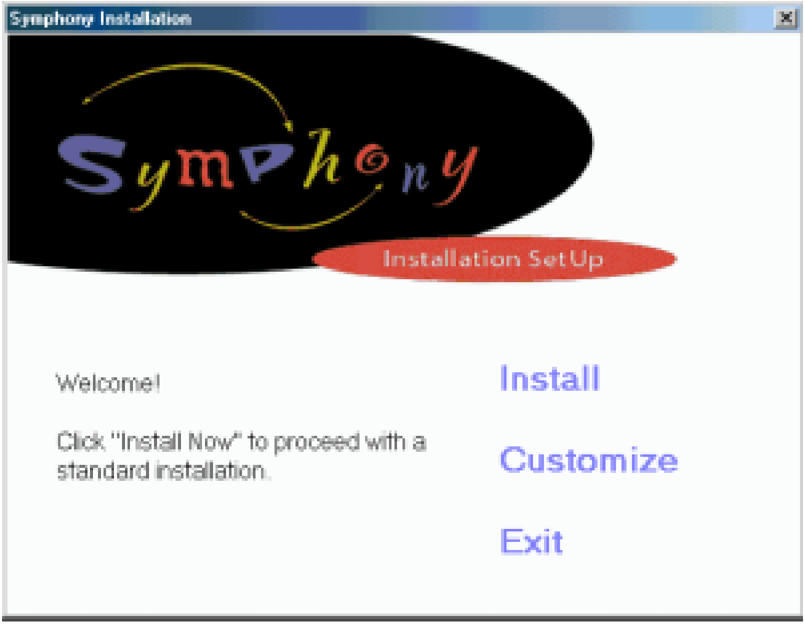
7. Click <**Next**> to continue.

8. When prompted, click <**Finish**> to close the Add New Hardware Wizard.

9. Double-click the **My Computer** icon on the Windows desktop.

10. Double-click the CD-ROM drive icon, typically this is drive D:, to browse the Symphony Installation CD.

11. If the installation program, shown below, does not launch automatically, double-click the icon labeled ***SETUP.EXE*** to launch the program.



Welcome!

Click "Install Now" to proceed with a standard installation.

12. Follow the on-screen instructions to install the Symphony software. Refer to the section entitled “Symphony Software Installation Steps” later in this chapter for additional installation instructions.

Windows 2000 Professional Installation Steps

Follow these steps to install the Symphony software on a Windows 2000 Professional computer:

Note:
The Symphony software cannot be installed on a Windows 2000 computer with multiple processors.

1. Download the Symphony for Windows 2000 Professional executable file from Proxim's Web site to a folder on the computer.

2. Double-click the executable file to extract out the Symphony software files.

3. Shut down the computer and install the Symphony-HRF adapter as described in Chapter 3.

4. Turn on the computer and logon to Windows 2000 Professional, if applicable.

When the Symphony-HRF adapter is inserted for the first time, the Windows operating system will automatically detect the card as a new device and launch the Found New Hardware Wizard.

Windows will recognize the Symphony-HRF USB Adapter as a **HomeRF Adapter** and the Symphony-HRF PC Card as a **HomeRF-LAN PC CARD**.

5. Click <**Next**> to begin the installation procedure.

6. Select **Search for a suitable driver for my device (recommended)** and click <**Next**>.

7. Please a check mark next to the **Specify a Location** box within the Locate Driver Files screen and click <**Next**>.

8. In the **Copy manufacturer's files from:** field, enter the location of the Symphony software files that you extracted from the Symphony download file in Step #2 and click <**OK**>.

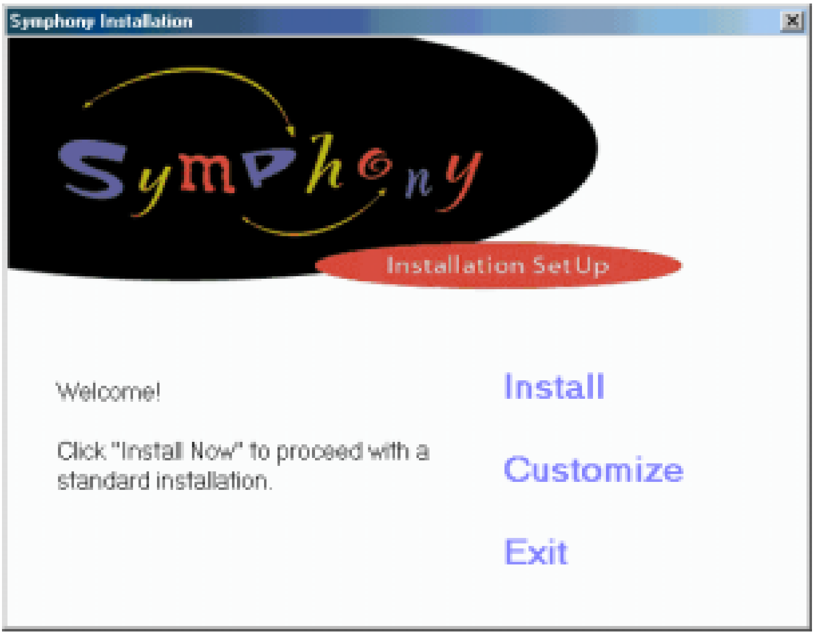
The Found New Hardware Wizard will locate the driver file for the Symphony-HRF adapter.

9. Click <**Next**> to continue.

10. Click <**Yes**> to continue if prompted that the driver does not contain a Microsoft Digital Signature.

11. When prompted, click <**Finish**> to close the Found New Hardware Wizard.

12. The Symphony installation program will launch automatically, as shown below.



Welcome!

Click "Install Now" to proceed with a standard installation.

13. If the installation program, does not launch automatically, open the folder that contains the Symphony software files and double-click the icon labeled ***SETUP.EXE*** to manually launch the program.

14. Follow the on-screen instructions to install the Symphony software. Refer to the section entitled “Symphony Software Installation Steps” later in this chapter for detailed installation instructions.

Windows 95 Installation Steps

Follow these steps to install the Symphony software on a Windows 95 computer:

1. Install the Symphony-HRF adapter as described in Chapter 3.

2. Turn on the computer.

When the Symphony-HRF adapter is inserted for the first time, the Windows operating system will automatically detect the card as a new device and run the Update Device Driver Wizard or the New Hardware Found wizard, depending on which version of Windows is installed on the computer.

Windows will recognize the Symphony-HRF PC Card as a **HomeRF-LAN PC CARD**.

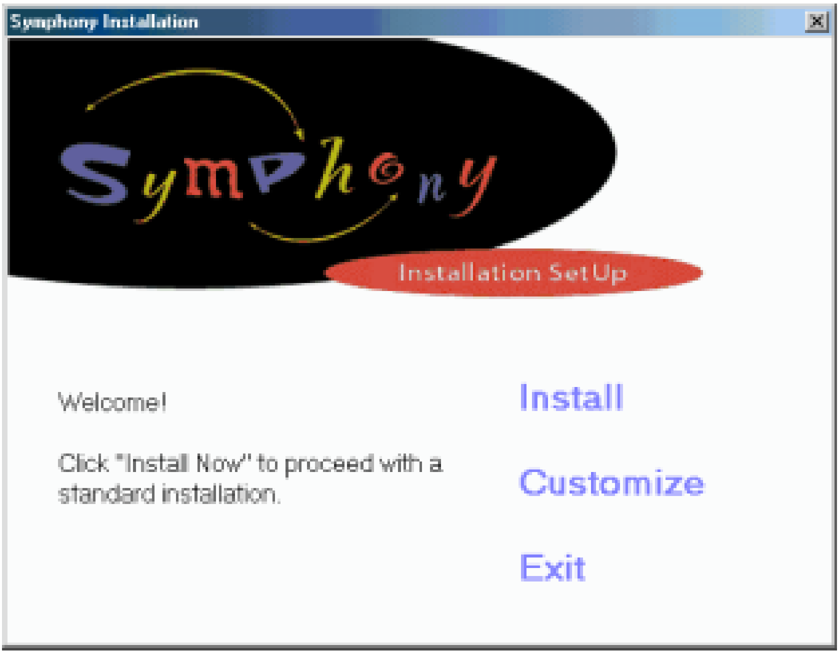
Note:
The Symphony-HRF USB Adapter cannot be installed in a Windows 95 computer.

3. Choose **<Cancel>**.

Note:
*To properly install the Symphony software in a Windows 95 computer, click **<Cancel>** to close the Windows auto-detection wizard and run* SETUP.EXE *from the Symphony Installation CD.*

4. When the Windows desktop appears, insert the Symphony Installation CD into the computer’s CD-ROM drive.

The Symphony Installation program will be launched automatically and display the following dialog box:



Welcome!

Click "Install Now" to proceed with a standard installation.

5. If the Symphony Installation screen appears, proceed to Step #9. If this screen does not appear, proceed to Step #6.

6. Double-click the **My Computer** icon on the Windows desktop.

7. Double-click the CD-ROM drive icon, typically this is drive D:, to browse the Symphony Installation CD.

8. Double-click the icon labeled ***SETUP.EXE*** to manually launch the installation program.

9. Follow the on-screen instructions to install the Symphony software. Refer to the section entitled “Symphony Software Installation Steps” later in this chapter for additional installation instructions.

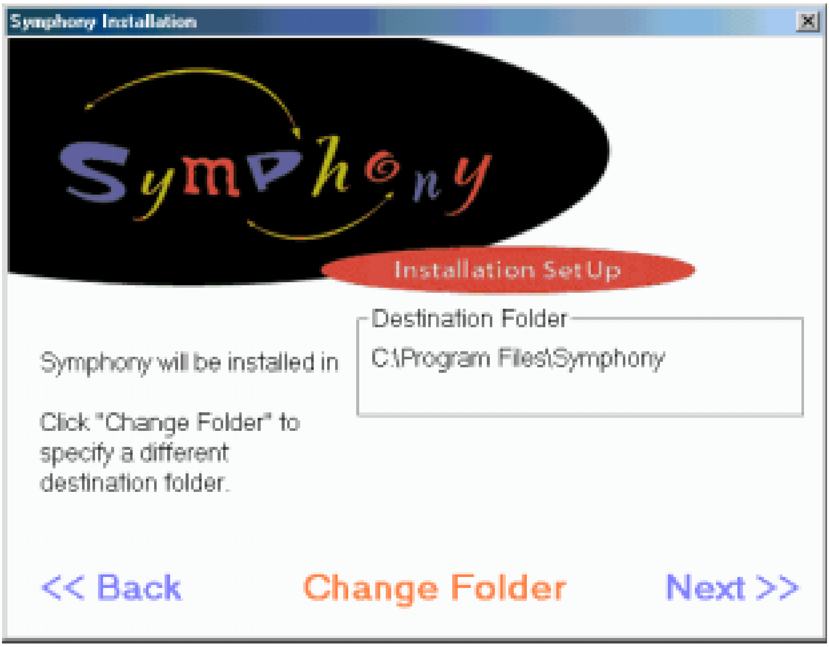
Symphony Software Installation Steps

Follow these steps to install the Symphony software using the Symphony Installation Set Up wizard:

1. Within the Symphony Installation screen, click **<Install Now>** to continue with the standard installation; proceed to Step #4.

   Alternatively, click **<Customize>** to change the default installation directory and proceed to Step #2.

Choosing the **<Customize>** button will display the following dialog box:



Symphony will be installed in

C:\Program Files\Symphony

Click "Change Folder" to specify a different destination folder.

By default, the Symphony installation files are copied to a directory named *C:\PROGRAM FILES\SYMPHONY*. The <Customize> option allows you to specify a different installation directory for the Symphony files.

2. Click the **<Change Folder>** option and select a new destination folder.

3. Click **<Next>** to continue.

4. For Windows 2000 Professional users, click <**Install Now**> to continue and proceed to Step #6.

   For Windows 95/98/ME users, if prompted to choose an adapter type, place a check mark next to the **Symphony HRF PC Card** entry if you have a Symphony-HRF PC Card; place a check mark next to the **Symphony HRF USB Adapter** entry if you have a Symphony-HRF USB Adapter. Click **<Install Now>** to continue.

Note:
*Multiple products support the Symphony software. If you are not using a Symphony-HRF adapter, choose the **Others...** box and select the appropriate adapter type from the list.*

The installation program will now install the hardware and copy the necessary Symphony installation files from the Symphony CD.

5. Insert your Windows 95/98/ME CD if prompted. If you do not have a Windows CD or diskettes, but the computer has the Windows Cabinet files, direct Windows to look for the Windows files in the Cabinet directory, which is typically located in *C:\WINDOWS\OPTIONS\INSTALL\* (Windows ME) or *C:\WINDOWS\OPTIONS\CABS\* (Windows 95/98).

Note:
If the installation wizard cannot locate a particular file, do NOT skip the file. Instead, try to locate the file on the Windows CD, within the Windows CAB directory, or within the C:\Windows\ *and* C:\Windows\System *directories. In order for the Symphony-HRF adapter to install correctly, the installation wizard must find and copy all of the files that it is looking for.*

6. If the computer prompts you that a file you are copying is older than the one currently on the system, click <**Yes**> to keep the existing file.

7. The Symphony Installation program will report when the installation has been successfully completed. Restart the computer if prompted.

   For Windows 2000 Professional users, click <**Finish**> and proceed to Step #10.

Windows will makes some adjustments to the system; this may take several minutes. Leave the Windows CD in the CD-ROM drive: Windows may need to copy additional files from the CD.

8. Restart the computer a second time if prompted.

After the computer restarts, you may be prompted to enter either a Windows password or a network password before proceeding.

Note:

*Do NOT choose the **<Cancel>** option. You must enter a User name and Password to logon to the network. If you choose **<Cancel>**, you will be unable to access network resources.*

9. If you have an existing User name and Password, type in the Password and click **<OK>**, or simply click **<OK>** if your Password is blank. This step will enable the computer's network functionality. Do NOT choose the **<Cancel>** option.

Note:

Write down your User name and Password for future use: you will need to enter this information each time you logon to the cordless network.

10. The Symphony Composer Installation Wizard will now initialize and display the Welcome message. Proceed to Chapter 5 for information on how to use the Symphony Composer Installation Wizard.

If the Symphony Composer Welcome message does not appear, or if you are prompted that the Symphony-HRF adapter is not working properly, refer to Chapter 12 of the manual that came with the Symphony-HRF adapter for troubleshooting information. Once the adapter has been successfully installed, refer back to Chapter 5 of this manual for configuration instructions.

Hint:

If you have problems installing a Symphony-HRF adapter, refer to Chapters 4 and 12 of the manual that came with the adapter for detailed installation and troubleshooting instructions.

5. Symphony Composer Installation Wizard

The installation of a cordless network that includes a Symphony-HRF Cordless Gateway occurs in three phases:

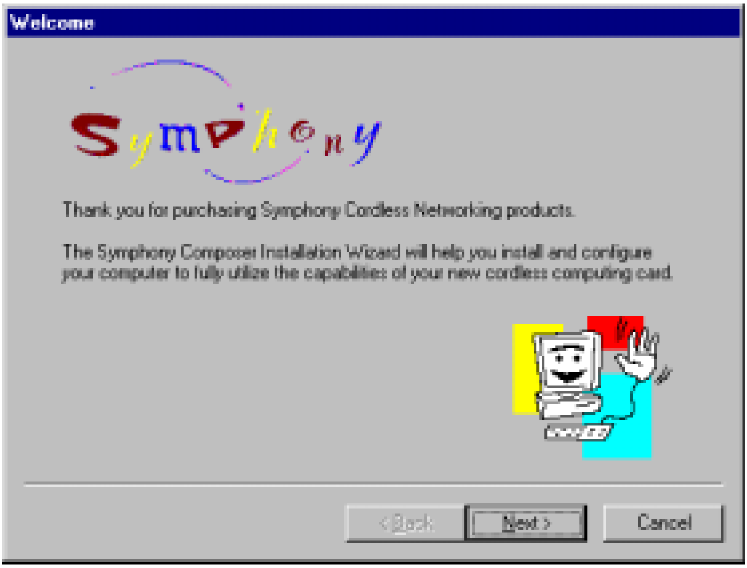
Phase 1: Install the Symphony-HRF Cordless Gateway and a Symphony-HRF or Symphony adapter in each computer that you want to communicate with the cordless network, as described in Chapter 3.

Phase 2: Install the Symphony software for each Symphony-HRF and Symphony adapter installed in Phase 1. This phase is described in Chapter 4.

Phase 3: Configure the cordless network to communicate with the Cordless Gateway using the Symphony Composer Installation Wizard. This phase is described in this chapter.

This chapter contains instructions for how to use the Symphony Composer Installation Wizard to configure a cordless network that includes a Symphony-HRF Cordless Gateway.

Once a Symphony-HRF or Symphony adapter has been successfully initialized, the Symphony Composer will be launched automatically and display the Welcome screen, shown below.



Thank you for purchasing Symphony Cordless Networking products.

The Symphony Composer Installation Wizard will help you install and configure your computer to fully utilize the capabilities of your new cordless computing card.

The Symphony Composer provides a friendly user interface to make configuration fast and easy. Each configuration option is explained in detail as you navigate through the Composer's installation screens.

Be sure to read all of the on-screen instructions carefully before making a selection and proceeding to the next screen. At any time, you may choose the <**Back**> button to return to an earlier screen and change a previous selection.

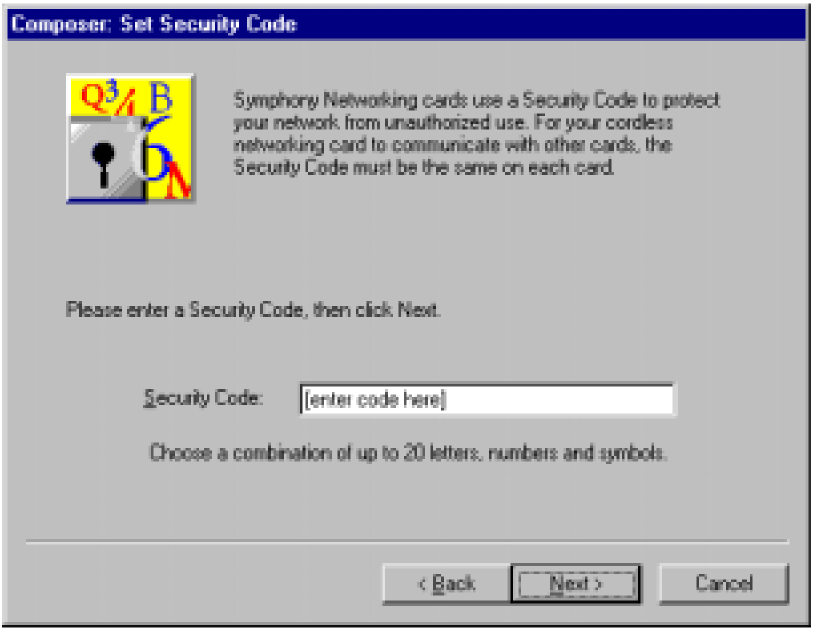
Repeat the steps below for each computer on the cordless network.

Note:
Confirm that the Cordless Gateway is powered on before proceeding with the configuration of the cordless computers.

Click <**Next**> to begin configuring the Symphony Cordless Network.

Step 1: Select a Security Code

The Symphony Composer will prompt you to choose a Security Code for the cordless network, as shown below.



Composer: Set Security Code

Symphony Networking cards use a Security Code to protect your network from unauthorized use. For your cordless networking card to communicate with other cards, the Security Code must be the same on each card.

Please enter a Security Code, then click Next.

Security Code: [enter code here]

Choose a combination of up to 20 letters, numbers and symbols.

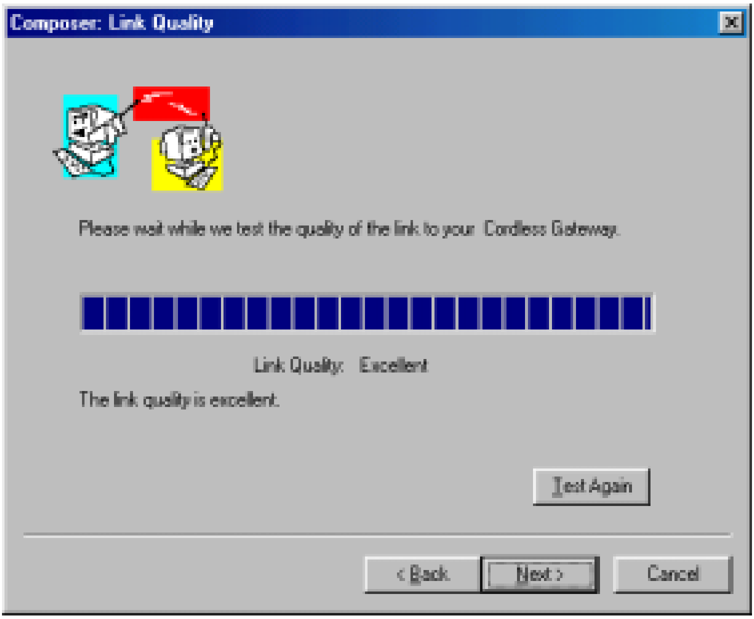
A Security Code is a string of up to 20 alphanumeric characters stored on all communicating Symphony-HRF and Symphony devices. This string must match on all Symphony-HRF and Symphony products to achieve communication. You must use the same Security Code on each device, and the Security Code is case sensitive.

When configuring the first cordless computer on a network, enter a Security Code that will be easy for you to remember and click <**Next**>. The Symphony-HRF Cordless Gateway will adopt this Security Code. Remember to use the same Security Code when configuring the other computers on the cordless network.

Note that there may be a momentary pause before the Composer displays the next screen.

Step 2: Establish Communication with the Cordless Gateway

After you have configured the Security Code, the Composer will attempt to automatically detect the Symphony-HRF Cordless Gateway and test the cordless link, as shown below.



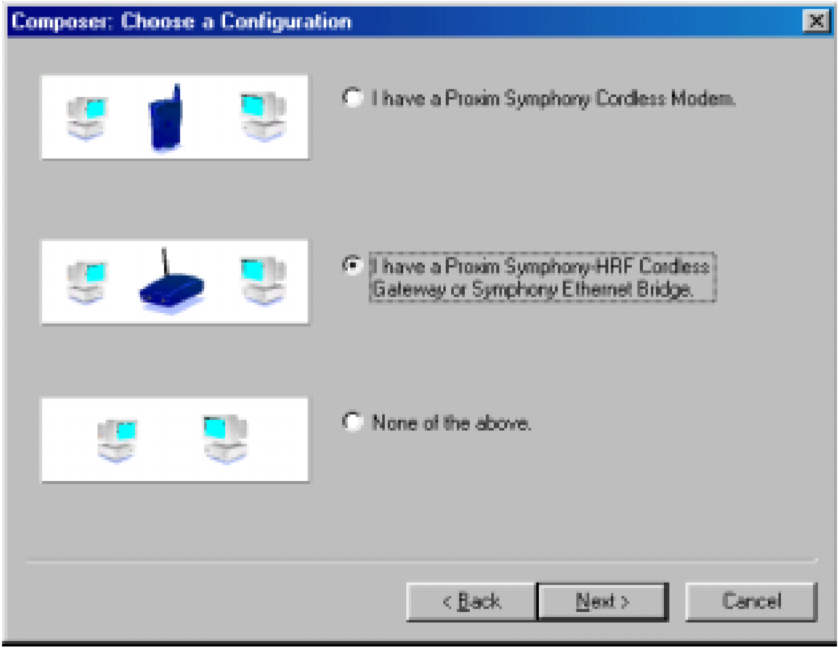
Please wait while we test the quality of the link to your Cordless Gateway.

Link Quality: Excellent

The link quality is excellent.

Click <**Next**> to continue and proceed to **Step 3: Configure TCP/IP Information**.

If the Composer cannot communicate with the Cordless Gateway, it will prompt you to manually select a network configuration, as shown below.



Composer: Choose a Configuration

○ I have a Proxim Symphony Cordless Modem.

● I have a Proxim Symphony-HRF Cordless Gateway or Symphony Ethernet Bridge.

○ None of the above.

Follow these steps to locate the Cordless Gateway:

1. If you are prompted to select a network type, as shown above, then the Cordless Gateway is

   ❑ Not powered on,

   ❑ The Security Code you entered does not match the Cordless Gateway’s Security Code, or

   ❑ The computer is out of range of the Cordless Gateway.

1a. Confirm that the Cordless Gateway is powered on.

1b. If you have previously configured other cordless computers on the network, confirm that you are using the correct Security Code.

1c. Try to bring the computer and Cordless Gateway closer together before proceeding.

2. Select the option labeled **I have a Proxim Symphony-HRF Cordless Gateway or Symphony Ethernet Bridge** and click **<Next>**.

3. You will be prompted to confirm that the Cordless Gateway is powered on and operational.

3a. Confirm that the Cordless Gateway's Power Indicator LED is on and click **<Next>** to continue.

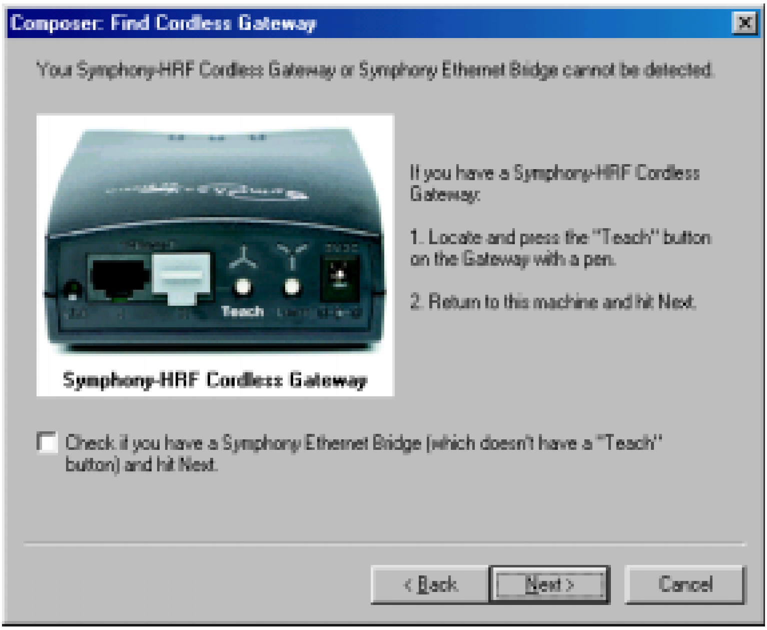
4. If the Composer cannot locate the Cordless Gateway, you will be prompted to reenter the Security Code.

4a. Reenter the Security Code and click **<Next>** to continue. If you do not know the Security Code, leave the Security Code field blank and click **<Next>**.

5. If the Composer successfully locates the Cordless Gateway, proceed to Step #8. Otherwise, proceed to Step #6.

6. When prompted by the screen shown below, use a pen, pencil, or other small object to press the button labeled **Teach** on the Cordless Gateway. The Cordless Gateway will operate in Teach mode for approximately 1 minute; the Power Indicator LED will flicker while the unit is in Teach mode.

7. Immediately return to the Composer screen and click <**Next**> to continue.



Composer: Find Cordless Gateway

Your Symphony-HRF Cordless Gateway or Symphony Ethernet Bridge cannot be detected.

If you have a Symphony-HRF Cordless Gateway:

1. Locate and press the "Teach" button on the Gateway with a pen.

2. Return to this machine and hit Next.

☐ Check if you have a Symphony Ethernet Bridge (which doesn't have a "Teach" button) and hit Next.

8. The Symphony Composer should now be able to communicate with the Cordless Gateway and should perform a link test.

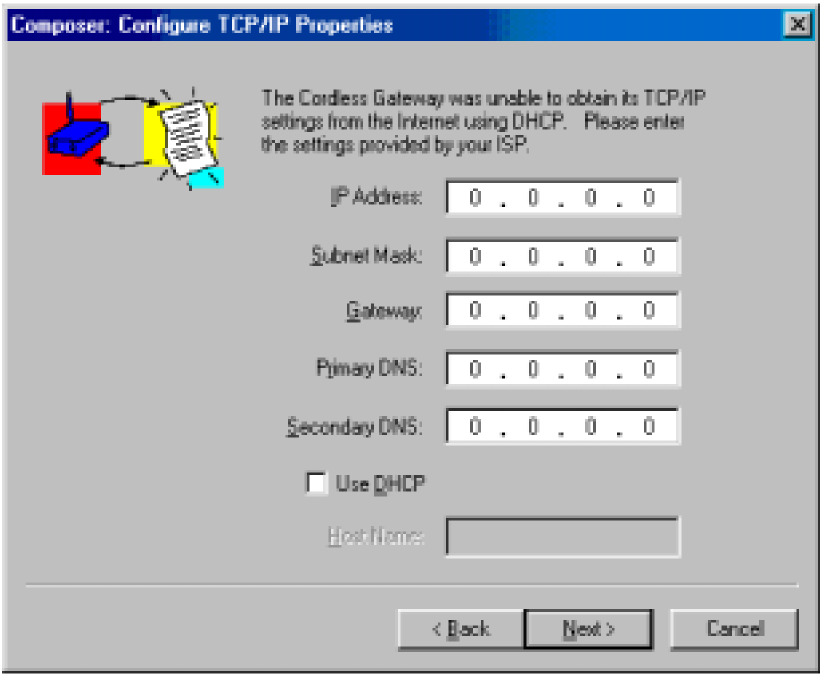
8a. Click **<Next>** to continue and proceed to **Step 3: Configure TCP/IP Information**.

8b. If problems persist, try moving the computer and Cordless Gateway closer together; the computer may be out of range of the Cordless Gateway. Also, you may want to contact Symphony Technical Support for assistance and additional suggestions.

Step 3: Configure TCP/IP Information

When configuring the first cordless computer on a network, the Cordless Gateway will request IP addressing information from your ISP's DHCP (Dynamic Host Configuration Protocol) server.

If the Cordless Gateway cannot receive an IP address from the ISP's DHCP Server, the Composer will prompt you to enter any static TCP/IP information assigned to you by the ISP (Internet Service Provider), as shown below.



Composer: Configure TCP/IP Properties

The Cordless Gateway was unable to obtain its TCP/IP settings from the Internet using DHCP. Please enter the settings provided by your ISP.

IP Address: 0 . 0 . 0 . 0

Subnet Mask: 0 . 0 . 0 . 0

Gateway: 0 . 0 . 0 . 0

Primary DNS: 0 . 0 . 0 . 0

Secondary DNS: 0 . 0 . 0 . 0

☐ Use DHCP

Host Name:

If you believe that your ISP uses DHCP to assign dynamic IP addressing information, place a check mark next to the box labeled **Use DHCP**. Also, enter the Host Name that the ISP uses to validate your Internet connection in the field provided, if applicable.

Note:
Some service providers assign their customers a specific Host Name or Computer Name to validate the Internet connection. If your ISP has assigned you a Host Name, enter that Host Name in the field provided. Otherwise, the Composer will use the Computer Name of the computer running Composer as the Host Name by default.

If the ISP has provided you with static TCP/IP parameters, enter these values in the fields provided. This includes IP address, subnet mask, gateway address, and primary and secondary DNS addresses, if applicable. If you do not have this TCP/IP information, contact your ISP for assistance.

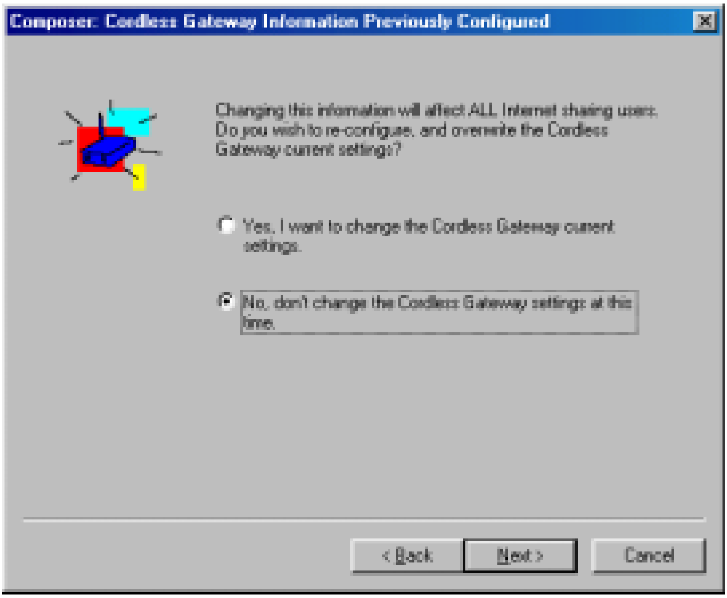
Note:

If your ISP uses Point to Point Protocol over Ethernet (PPPoE) to provide you with Internet access, select the ***Use DHCP*** *option and click* ***<Next>*** *to continue. You may configure a PPPoE User Name and Password from within the Symphony Maestro Configuration Tool once the Composer steps are complete. See Chapter 7 for details.*

If you plan to use the Cordless Gateway in Transparent Bridging mode only to communicate with a wired Ethernet network, leave these fields blank. Refer to Chapter 7 for more information on these parameters.

Click <**Next**> once you have configured the TCP/IP parameters.

If you have previously configured the Cordless Gateway's TCP/IP information from another cordless computer, the Composer will give you the option to change the existing settings, as shown below.



Composer: Cordless Gateway Information Previously Configured

Changing this information will affect ALL Internet sharing users. Do you wish to re-configure, and overwrite the Cordless Gateway current settings?

○ Yes, I want to change the Cordless Gateway current settings.

● No, don't change the Cordless Gateway settings at this time.

If you do not wish to change any TCP/IP information at this time, select the **No, don't change the Cordless Gateway settings at this time** option and click <**Next**> to continue.

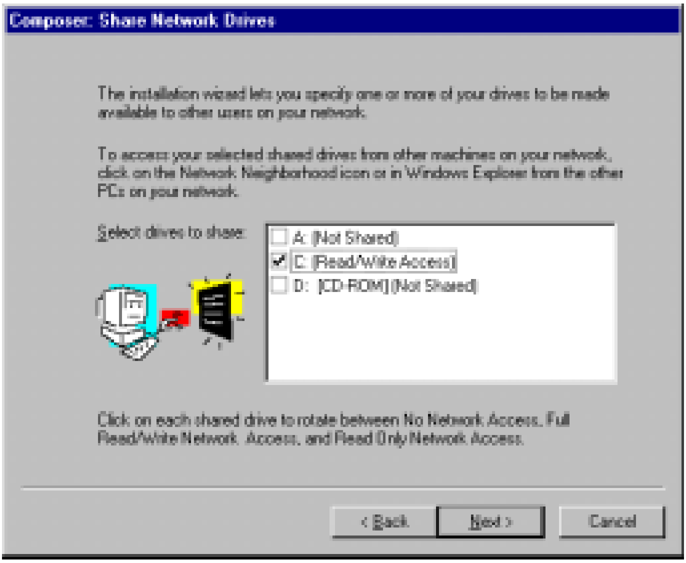
Step 4: Assign a Computer Name

Each computer is assigned a name so that it can be easily identified by the other devices on the network. The Symphony Composer Installation Wizard will determine if your computer has already been assigned a name.

If prompted, enter a Computer Name for the computer and click **<Next>**. The Computer Name may be up to 15 alphanumeric characters long.

Step 5: Select Drives and Printers to Share

The Symphony Composer will generate a list of the computer's hard drives, CD-ROM drives, floppy drives, and printers that may be shared with other computers on the cordless network, as shown below.



The installation wizard lets you specify one or more of your drives to be made available to other users on your network.

To access your selected shared drives from other machines on your network, click on the Network Neighborhood icon or in Windows Explorer from the other PCs on your network.

Select drives to share:

☐ A: (Not Shared)
☑ C: (Read/Write Access)
☐ D: (CD-ROM) (Not Shared)

Click on each shared drive to rotate between No Network Access, Full Read/Write Network Access, and Read Only Network Access.

Check the box to the left of each resource entry to allow other computers to access that particular resource over the network and click **<Next>**.

Note that the Composer will display two configuration screens: one for sharing drives and one for sharing printers. When sharing a computer's drive, click the box to the left of a resource multiple times to toggle between several access levels that may be granted to remote users. The options are Read/Write access, Read Only access, or no access.

If you configure a drive with Read/Write or Read Only access, Proxim recommends that you establish a password to prohibit unauthorized access. Depending on the type of Internet connection you have, others may be able to see your computers in their Network Neighborhood or My Network Places icon and have unauthorized access to your drives.

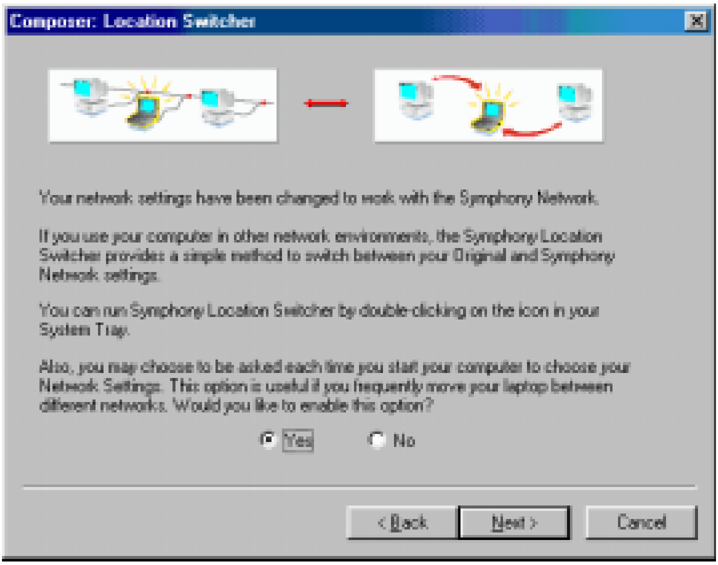
You may change the access type and establish passwords using the Symphony Maestro Configuration Tool. See the File Sharing discussion in Chapter 7 for details.

Step 6: Configure Switcher Prompt at Boot-up

The Symphony Location Switcher includes an optional startup prompt that will appear each time the computer boots up; this is a convenient method to switch between profiles for users who frequently move a laptop between multiple locations.

Note:
The Switcher's prompt at boot-up feature is not available on computers running Windows ME.

Depending on the configuration of the computer, the Symphony Composer Installation Wizard may ask you to decide if you want this prompt to appear each time the computer boots up, as shown below.



Your network settings have been changed to work with the Symphony Network.

If you use your computer in other network environments, the Symphony Location Switcher provides a simple method to switch between your Original and Symphony Network settings.

You can run Symphony Location Switcher by double-clicking on the icon in your System Tray.

Also, you may choose to be asked each time you start your computer to choose your Network Settings. This option is useful if you frequently move your laptop between different networks. Would you like to enable this option?

● Yes ○ No

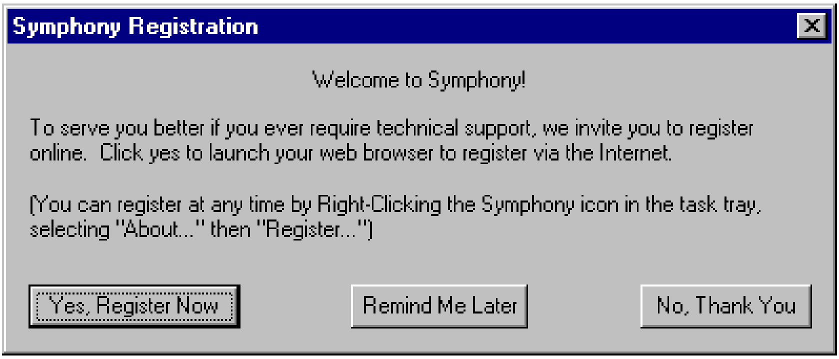
Choose either the **Yes** or **No** box and click **<Next>**.

If you decide later that you want to enable or disable the Switcher prompt at boot-up, you can reconfigure this feature within the Location Switcher configuration screen. See Chapter 8 for more information on the Location Switcher.

When you have completed the configuration of the Symphony settings described above, restart the computer if prompted.

Step 7: Register Symphony Products

Following the successful completion of the Symphony Composer Installation Wizard, you will be given an opportunity to register your Symphony product on-line, as shown below.



Symphony Registration

Welcome to Symphony!

To serve you better if you ever require technical support, we invite you to register online. Click yes to launch your web browser to register via the Internet.

(You can register at any time by Right-Clicking the Symphony icon in the task tray, selecting "About..." then "Register...")

Click **<Yes, Register Now>** to be taken to the Symphony Registration Web site. If you choose not to register at this time, you can click the button labeled **<Remind Me Later>** to be prompted each time you turn on or restart the computer. If you do not want to be prompted to register at a later date, click **<No, Thank You>**.

Alternatively, you may register at any time by right-clicking the Symphony icon, located in the Windows System Tray. Choose **About** from the pop-up menu and then click **<Register>**.

Hint:

The Composer may be relaunched at any time from the Symphony group under the Programs section of the Start Menu to reconfigure the cordless network. See Chapter 9 for more information on how to reconfigure a cordless network.

Step 8: Configure PPPoE Parameters

If your ISP uses the Point to Point Protocol over Ethernet (PPPoE) and you want to use the Cordless Gateway in NAT mode, then you must configure an ISP User Name and ISP Password within the Symphony Maestro Configuration Tool.

See “Configuring the ISP TCP/IP Settings” within Chapter 7 for instructions.

Step 9: Establish Communication with an Ethernet Network

If you have attached the Cordless Gateway to an Ethernet network to allow cordless computers to share files and printers with Ethernet devices, then you must configure the Cordless Gateway to operate in Transparent Bridging Mode only.

In addition, you must configure the TCP/IP settings for each cordless computer if you do not have a DHCP server on your Ethernet network.

In order for Ethernet computers and cordless computers to communicate as members of the same Local Area Network (LAN), you must configure all devices (Ethernet and cordless) to use the same IP network.

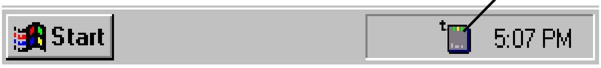
By default, a Symphony-HRF or Symphony adapter is configured to accept an IP address from a DHCP server. If you do not have a DHCP server on your Ethernet network, then you must assign each cordless client computer with a static IP address and other TCP/IP parameters, just as if you were configuring another computer on your Ethernet backbone.

See “Configuring a Cordless Network to Use Transparent Bridging” within Chapter 7 for details.

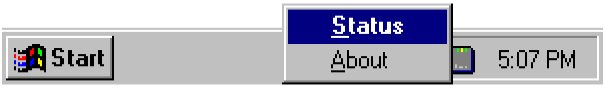
6. Symphony Maestro Configuration Tool

The Symphony Maestro Configuration Tool lets you make changes to the cordless network and monitor its current status.

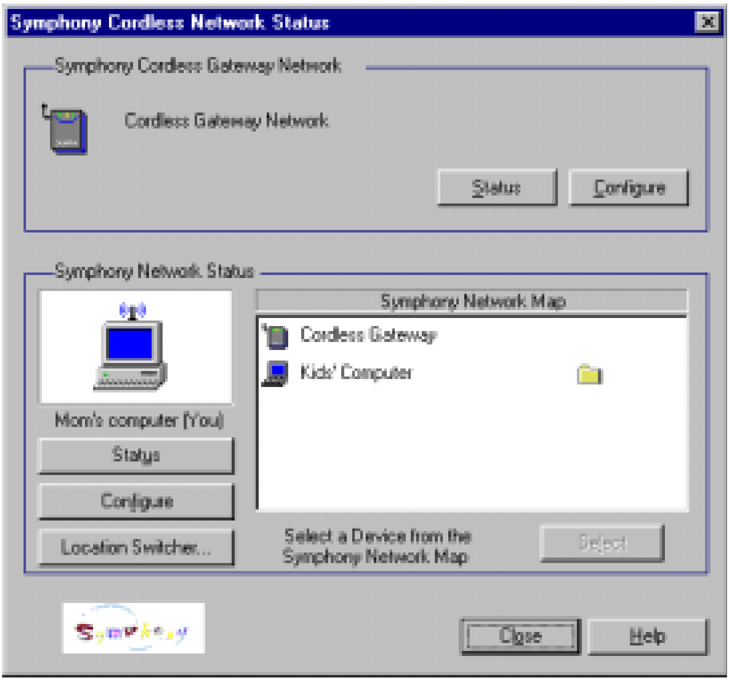
After the Composer completes the installation of the cordless network, the Maestro Configuration Tool will display a Symphony icon in the Windows System Tray of each cordless computer, as shown below:


Cordless Gateway Networking icon

Double-click the Symphony icon to launch the Maestro tool. Alternatively, right-click the Symphony icon and choose **Status**, as shown below.



Either method will launch the Maestro Configuration Tool, shown below.



Select a Device from the Symphony Network Map

The Maestro tool has two functions: it monitors the current state of both the cordless network and the Cordless Gateway, and it allows the user to reconfigure the cordless network and Cordless Gateway parameters.

The Symphony Maestro Configuration Tool is installed on each cordless computer on the network.

Below is a brief overview of the key features incorporated into the Maestro Configuration Tool when using the Symphony-HRF Cordless Gateway.

Refer to the On-line Help documentation for additional details on how to use each of these features and for information on additional features not discussed below.

Maestro Features for the Cordless Gateway

The Symphony Maestro allows you to configure and monitor the following Cordless Gateway functions:

Monitor the State of the Cordless Gateway

On the main page of the Maestro Configuration Tool, under the **Symphony-HRF Cordless Gateway Network** heading, there is a picture of the Cordless Gateway which will change color to reflect different states of connectivity.

When the Cordless Gateway icon is gray (Windows 95/98/ME) or turquoise (Windows 2000 Professional), the cordless computer running the Maestro tool is successfully communicating with the Cordless Gateway.

When the Cordless Gateway icon is red, the computer cannot communicate with the Cordless Gateway, typically because the Cordless Gateway is not operational, the computer is out of range, or the Security Codes do not match.

Note that the Symphony icon in the Windows System Tray will also change color to reflect the different states of radio connectivity.

Configure the Cordless Gateway to Allow Internet Sharing

The Cordless Gateway can perform both Transparent Bridging and Network Address Translation (NAT). By default, the Cordless Gateway performs both these functions and will accept an IP address from a DHCP server.

You may change these values by clicking the <**Configure**> button under the Symphony-HRF Cordless Gateway Network heading.

From this screen, you may configure the Cordless Gateway with static TCP/IP settings or PPPoE parameters assigned by your ISP and configure the device to perform NAT, Transparent Bridging, or both.

In addition, you may configure the TCP/IP addressing scheme that the Cordless Gateway uses to communicate with the cordless computers when operating in NAT mode. See Chapter 7 for detailed information on these parameters.

Upgrade the Symphony-HRF Cordless Gateway

If a new firmware file becomes available for the Symphony-HRF Cordless Gateway, you may upgrade the unit to this new version using the Maestro Configuration Tool.

Click the <**Configure**> button under the Symphony-HRF Cordless Gateway Network heading and click the **Upgrade** tab to view the Upgrade screen.

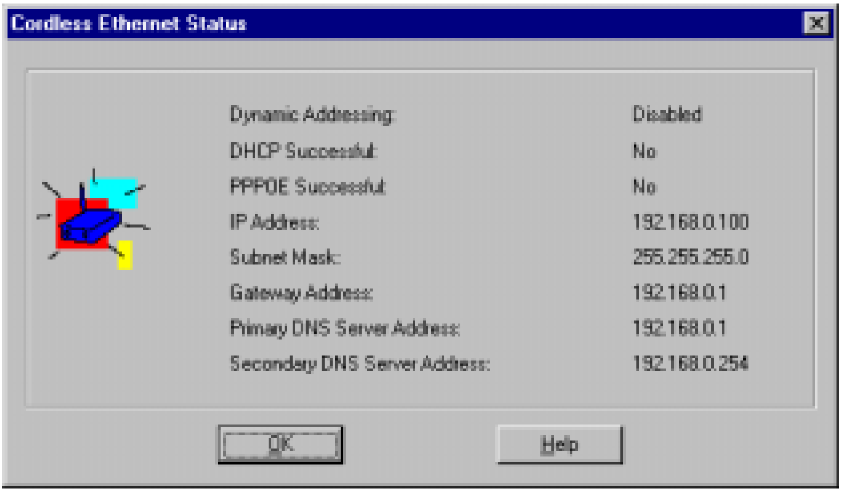
This screen displays the current version of the Cordless Gateway's firmware and allows you to upgrade the firmware version either from a file on one of the computer's drives or from the Symphony Web site.

Refer to Chapter 10 for detailed upgrade instructions.

Monitor the Cordless Gateway's Status

Click the <**Status**> button under the Symphony-HRF Cordless Gateway Network heading to view the current TCP/IP settings that the Cordless Gateway uses to communicate with the Internet.

Among other things, the Cordless Ethernet Status screen reports if DHCP or PPPoE connection attempts were successful, as shown in the following example.



Dynamic Addressing: Disabled
DHCP Successful: No
PPPOE Successful: No
IP Address: 192.168.0.100
Subnet Mask: 255.255.255.0
Gateway Address: 192.168.0.1
Primary DNS Server Address: 192.168.0.1
Secondary DNS Server Address: 192.168.0.254

Note:
The Cordless Gateway must be connected to an Ethernet network or to a device that provides high-speed Internet access (e.g., a cable modem) during its boot-up cycle in order to obtain an IP address from the ISP via DHCP or PPPoE. If you believe that the Cordless Gateway should have received an IP address automatically from the ISP but it did not, confirm that the Link LED is on and try recycling power to the unit.

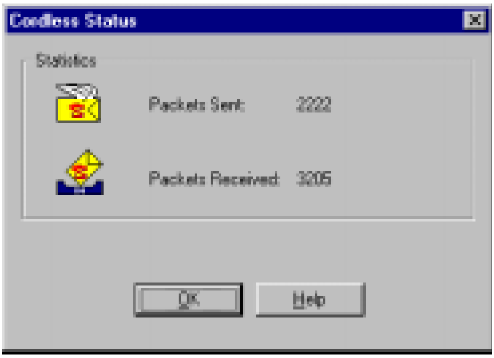
Refer to Chapter 7 for more information on these parameters.

Maestro Networking Features

The Symphony Maestro Configuration Tool allows you to configure and monitor the following network functions:

Obtain Network Status Information

The Symphony Maestro Configuration Tool reports the number of packets sent and received by the Symphony-HRF or Symphony adapter while communicating with the cordless network. Click the <**Status**> button under the Symphony Network Status heading to view the Cordless Status screen shown in the following example.



Packets Sent: 2222

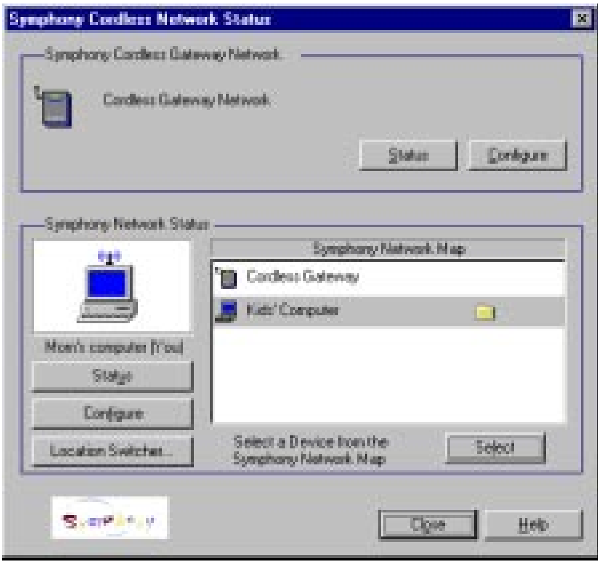
Packets Received: 3205

Test Cordless Connection

Symphony Maestro reports the identities of the other members of the cordless network in the Symphony Network Map. You may test the strength of the cordless connection between your computer and any other member of the cordless network from this screen.

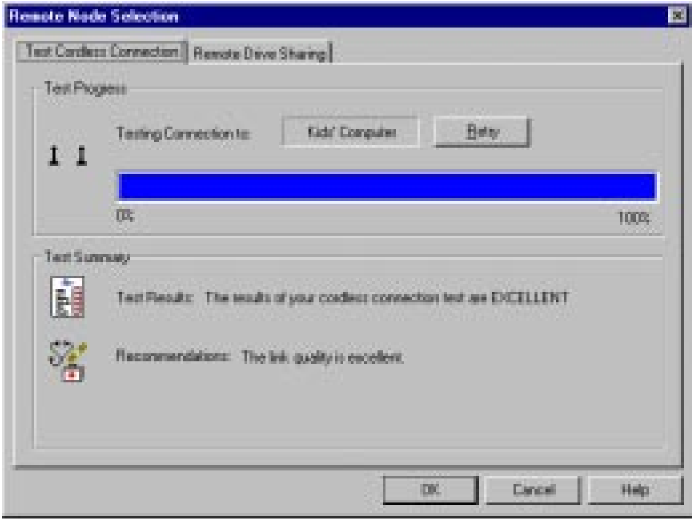
Follow these steps to test the cordless connection:

1. Highlight one of the other computers in the Symphony Network Map, as shown below.



Select a Device from the Symphony Network Map

2. Click <**Select**> to perform the link test, as shown below.



Testing Connection to: Kids' Computer

Test Results: The results of your cordless connection test are EXCELLENT

Recommendations: The link quality is excellent.

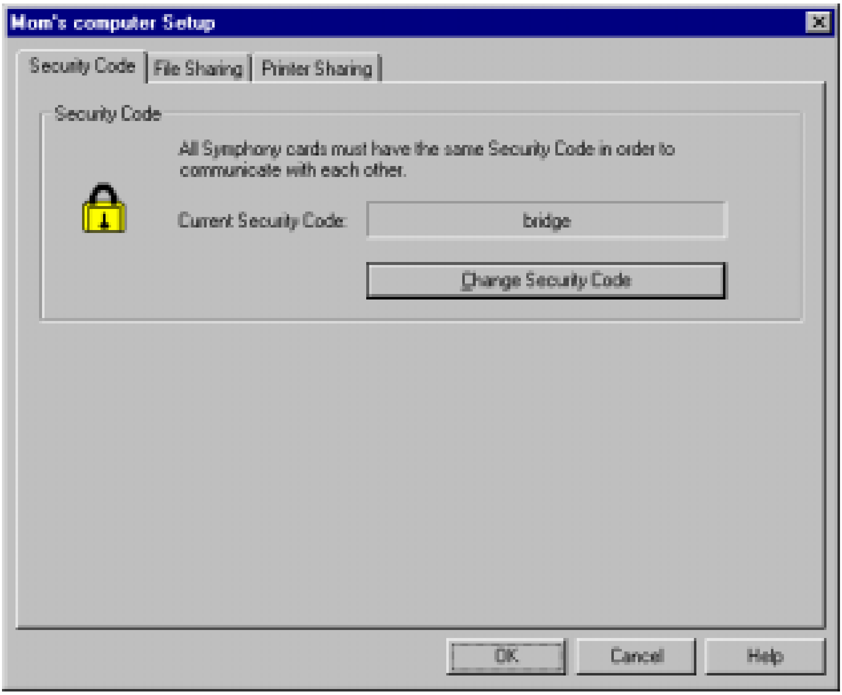
Maestro will rate the connection strength as “Excellent,” “Good”,” or “Poor,” depending on the results of the test.

Note that double-clicking one of the entries in the Symphony Network Map will also open the Test Cordless Connection window.

Configure Network Parameters

From within the Maestro Configuration Tool, you may change the Security Code and which drives, directories, and printers are available for sharing.

Click the <**Configure**> button under the Symphony Network Status heading to display the computer’s Setup screen, as shown in the following example.



All Symphony cards must have the same Security Code in order to communicate with each other.

Current Security Code: bridge

Click the appropriate tab to change which drives, directories, and printers are available for sharing.

Note that the Maestro Configuration Tool allows you to designate specific directories to share. Therefore, rather than sharing an entire drive, you can customize the amount and location of information that is available to other users on the network. Refer to the section entitled “File Sharing” in Chapter 7 for additional details.

Remote Drive Sharing

Symphony Maestro allows you to attach a remote shared drive or directory to a drive letter on the local computer. Highlight one of the other Symphony computers in the Symphony Network Map and click <**Select**> or simply double-click one of the entries. Then, click the **Remote Drive Sharing** tab to utilize this feature. Refer to the section entitled “Remote Drive Sharing” in Chapter 7 for additional information about this feature.

Launch the Symphony Location Switcher

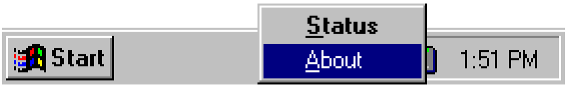
Click the <**Location Switcher...**> button under the Symphony Network Status heading to call up the Symphony Location Switcher configuration screen.

Maestro Administrative Features

The Symphony Maestro Configuration Tool also includes the following administrative features:

Determine Software Version in Use

To view information about the Symphony software versions currently in use, right-click the Symphony icon in the Windows System Tray and choose **About**, as shown below.



This will display the About Symphony Maestro Configuration Utility screen.

Register Products on Proxim's Web Site

At any time you may register your Symphony products on-line at Proxim's web site.

If you did not register your Symphony products following the completion of the Symphony Composer Installation Wizard, simply click the <**Register**> button in the About Symphony Maestro Configuration Utility screen to be taken to the Symphony Registration Web site.

7. Configuring a Cordless Gateway Network

This chapter describes how to configure the Cordless Gateway to allow cordless computers to share a high-speed Internet connection and/or communicate with devices on a wired Ethernet network.

This chapter also includes instructions for how to share files between computers using the Maestro Configuration Tool and how to print to a network printer.

Cordless Gateway Topologies

The Symphony-HRF Cordless Gateway performs two important networking functions: Network Address Translation (NAT) and Transparent Bridging.

NAT allows the Cordless Gateway to share a high-speed Internet connection with its cordless clients using a single IP address assigned by the ISP.

Transparent Bridging allows cordless computers to communicate with wired Ethernet computers as if all devices, wired and cordless, were attached to the same physical network.

The Cordless Gateway may be configured to operate in NAT mode only, in Transparent Bridge mode only, or in both modes simultaneously from within the Symphony Maestro Configuration Tool. The Cordless Gateway will perform both NAT and Transparent Bridging by default.

Understanding Network Address Translation (NAT)

When two computers are members of the same local area network or LAN, each communicates directly with the other. However, two computers located on different networks cannot communicate directly with each other but require an intermediary device, known as a router, to exchange information between the two networks. This is the case whenever a computer on your cordless network accesses a Web page on the Internet. NAT is a type of software router that forwards packets between different networks.

Using NAT, the Cordless Gateway allows multiple computers to access the Internet simultaneously while only using a single public IP address assigned to you by the ISP. Each of these client computers is assigned a unique internal IP address that is only valid on the cordless network.

In NAT mode, a Cordless Gateway uses two IP addresses: one address assigned by the ISP to communicate with the Internet and one internal address to communicate with the cordless computers. In addition, the Cordless Gateway acts as a DHCP server to automatically assign IP addresses to computers on the internal cordless network.

You may configure the Cordless Gateway's TCP/IP settings within the Symphony Maestro Configuration Tool. See the "Configuring a Cordless Network to Use NAT" section later in this chapter for details.

Understanding Transparent Bridging

Transparent Bridging allows cordless computers to communicate with computers on an Ethernet network, as if all devices, Ethernet and cordless, were attached to the same physical network.

In reality, the Symphony Cordless Network and the wired Ethernet network use two different methods to communicate: one sends messages over a cable and the other sends messages over radio waves. However, when the Cordless Gateway is connected to both networks and is operating in Transparent Bridging mode, all devices, Ethernet and cordless, appear to be on the same Local Area Network (LAN). This allows members of both networks to share resources, such as files and printers, with one another. The Cordless Gateway bridges information between these two networks which would otherwise be unable to communicate with each other.

When configured for Transparent Bridging mode only, the Cordless Gateway will bridge all protocol types between the two networks.

When configured to perform both NAT and Transparent Bridging simultaneously, the Cordless Gateway will bridge all protocol types except TCP/IP between the two networks.

Determining the Cordless Gateway's Topology Parameter

By default, the Cordless Gateway performs both NAT and Transparent Bridging simultaneously. In general, the majority of cordless networks will use this setting.

However, there are some circumstances where you want to configure the Cordless Gateway to operate in Transparent Bridging mode only.

This section describes when to use NAT only, Transparent Bridging only, or both simultaneously.

When to Use NAT Only

Use NAT mode only if:

You want to share a high-speed Internet connection with the cordless network and do not want the cordless network to communicate with an Ethernet network.

When to Use Transparent Bridging Only

Use Transparent Bridging mode only if:

You want the cordless network to communicate with an Ethernet network and the Ethernet network already has shared Internet access (using a router, a proxy server, or an Ethernet device that already performs NAT).

OR

You want the cordless network to communicate with an Ethernet network and you do not want the cordless network to have access to the Internet.

When to Use Both NAT and Transparent Bridging

Use both NAT and Transparent Bridging mode if:

You want to share a high-speed Internet connection with the cordless network and do not want the cordless network to communicate with an Ethernet network.

OR

You want the cordless network to communicate with an Ethernet network and the Ethernet network has Internet access, but the ISP has not provided you with enough IP addresses to assign a unique address to each cordless computer.

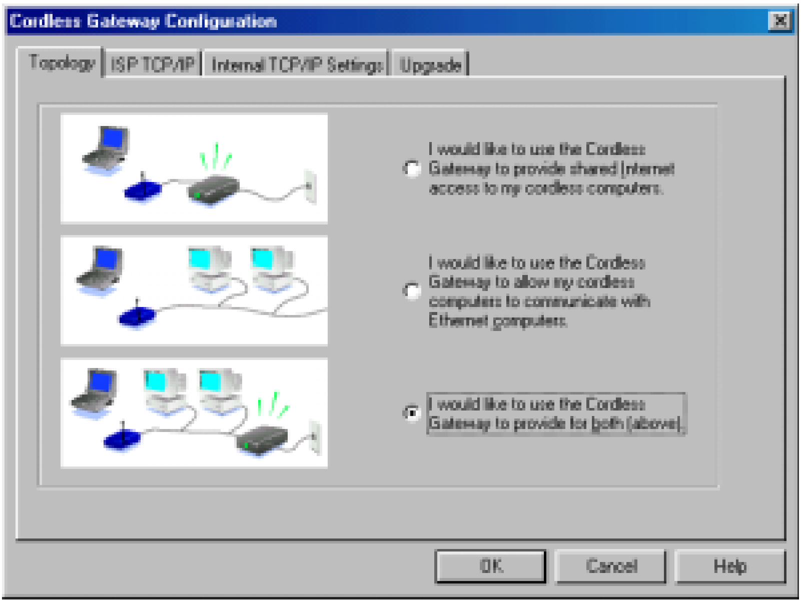
Configuring the Topology Parameter

Follow these steps to change the Cordless Gateway’s Topology parameter:

1. Open the Symphony Maestro Configuration Tool on one of the cordless computers.

2. Click the <**Configure**> button under the Symphony-HRF Cordless Gateway Network heading.

3. Choose the **Topology** tab, as shown below.



○ I would like to use the Cordless Gateway to provide shared Internet access to my cordless computers.

○ I would like to use the Cordless Gateway to allow my cordless computers to communicate with Ethernet computers.

● I would like to use the Cordless Gateway to provide for both (above).

Within the Topology screen, the first option refers to NAT mode only, the second option refers to Transparent Bridging mode only, and the third option, which is the default setting, corresponds to using both modes simultaneously (that is, the Cordless Gateway performs NAT for the TCP/IP protocol and Transparent Bridging for all other network protocols).

4. Select the topology required by your network.

Note:

Refer to the section above entitled “Determining the Cordless Gateway’s Topology Parameter” for assistance in determining if you need to configure this setting.

5. Click <**OK**> to save the change. The Cordless Gateway will restart automatically in order for this change to take effect.

Configuring a Cordless Network to Use NAT

A Cordless Gateway uses NAT to provide Internet access to all computers on the cordless network using one IP address from the ISP (Internet Service Provider).

NAT requires that the Cordless Gateway use two sets of TCP/IP parameters: one set provided by the ISP to communicate with the Internet (also known as the ISP TCP/IP Settings) and a second set to communicate internally with the cordless network (also known as the Internal TCP/IP Settings).

Refer to the sections below for information on how to configure these TCP/IP settings.

Also, refer to the section entitled “TCP/IP Configuration for Cordless Computers in NAT Topologies” for information on the TCP/IP settings that the cordless client computers obtain from the Cordless Gateway.

Configuring the ISP TCP/IP Settings

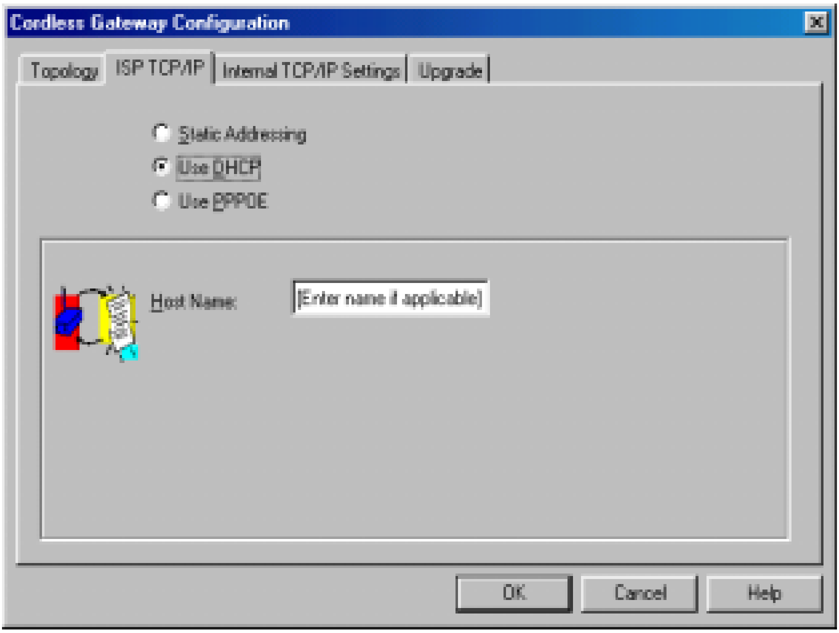
The Symphony-HRF Cordless Gateway performs Network Address Translation (NAT) to allow multiple cordless computers simultaneous access to the same high-speed Internet connection. This function requires that the Cordless Gateway be assigned an IP address obtained from your ISP.

The Cordless Gateway supports three methods to establish communication with the ISP and the Internet: Dynamic IP addressing using DHCP, Static IP addressing, and PPPoE.

During installation, the Symphony Composer Installation Wizard will provide you with an opportunity to assign a static IP address or configure the Cordless Gateway to accept a dynamic IP address. If your ISP uses PPPoE, then you must configure these settings within the Symphony Maestro Configuration Tool.

To configure the Cordless Gateway's ISP settings after a successful installation of the Symphony software, open the Maestro Configuration Tool on one of the client computers and click the <**Configure**> button under the Symphony-HRF Cordless Gateway heading.

Click the **ISP TCP/IP** tab within the Cordless Gateway Configuration screen, as shown below.



○ Static Addressing
● Use DHCP
○ Use PPPOE

Host Name: [Enter name if applicable]

Note:
The ISP TCP/IP parameters are not applicable when the Cordless Gateway is operating in Transparent Bridging mode only.

Each of the three ISP TCP/IP options is described in the following sections:

Static IP Addressing

A static address is a permanent IP address assigned to you by your ISP. You manually configure a networking device to use this IP address, and the address never expires. Likewise, the associated subnet mask, default gateway, and DNS (Domain Name System) entries also do not expire once configured.

During installation, the Cordless Gateway will attempt to automatically receive a dynamic IP address from the ISP.

If the Cordless Gateway cannot obtain a dynamic address from the ISP, the Composer Installation Wizard will give you the opportunity to assign a static IP address, subnet mask, default gateway, and DNS information. Your ISP will provide you with this information if it supports static addressing.

If you chose not to assign a static IP address during installation or you entered incorrect settings, you may change the ISP's TCP/IP parameters within the Symphony Maestro Configuration Tool, following the steps below:

1. Open the Symphony Maestro Configuration Tool on one of the cordless computers.

2. Click the <**Configure**> button under the Symphony-HRF Cordless Gateway Network heading.

3. Click the **ISP TCP/IP** tab within the Cordless Gateway Configuration screen.

4. Select the **Static Addressing** option.

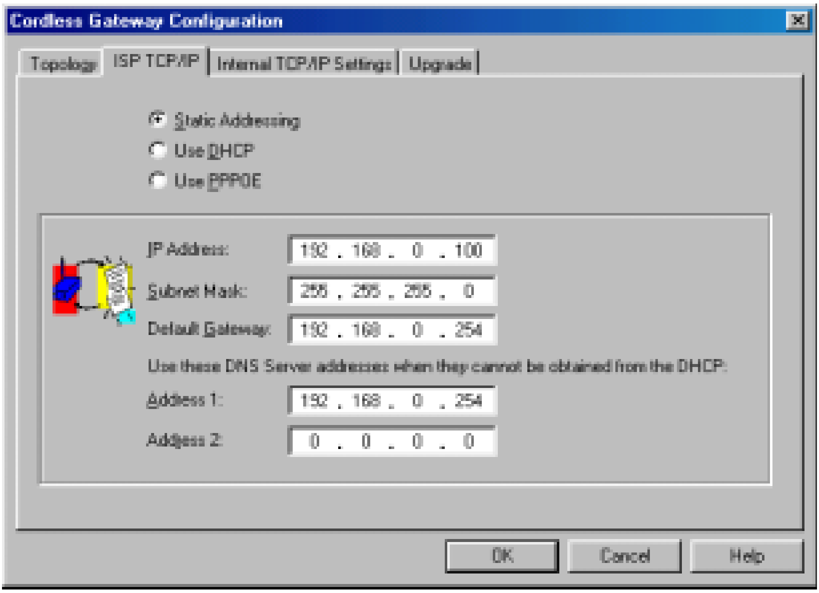
5. Enter the static IP address that the Cordless Gateway will use to communicate with the Internet.

6. Enter the subnet mask.

7. Enter the default gateway.

8. In the fields labeled **Address 1** and **Address 2**, enter the DNS (Domain Name System) server addresses that the Cordless Gateway will use if not assigned by the ISP's network dynamically.

9. Confirm that you have entered the appropriate information in each field. In the example below, the Cordless Gateway has been assigned an IP address of 192.168.0.100 with a subnet mask of 255.255.255.0. The default gateway is 192.168.0.1 and the DNS addresses are 192.168.0.1 and 192.168.0.254.



● Static Addressing
○ Use DHCP
○ Use PPPOE

IP Address: 192 . 168 . 0 . 100
Subnet Mask: 255 . 255 . 255 . 0
Default Gateway: 192 . 168 . 0 . 254

Use these DNS Server addresses when they cannot be obtained from the DHCP:

Address 1: 192 . 168 . 0 . 254
Address 2: 0 . 0 . 0 . 0

Note:
The IP address, subnet mask, default gateway, and DNS entries should be provided by your ISP.

10. Click <**OK**> to save these changes.

11. The Cordless Gateway will be restarted automatically.

Dynamic IP Addressing

A dynamic address is a temporary IP address assigned to you by your ISP that must be renewed periodically. Most ISPs use a protocol called Dynamic Host Configuration Protocol (DHCP) to dynamically assign IP addresses.

When you turn on a networking device configured to use dynamic addressing, it requests an address assignment from the ISP's DHCP server. In response, the server assigns the device an available IP address for a specified period of time.

The device uses the assigned IP address for a day, a month, or even longer depending on the length of the lease. Prior to the expiration date, the device will attempt to renew its lease to provide uninterrupted connectivity.

However, if the device does lose its lease, it simply requests another address assignment, at which time it should receive either the same address or a new address from the DHCP server.

In addition, some ISPs require that you assign a specific Computer Name or Host Name to your computer. This allows the ISP's server to verify your identity before assigning your computer a dynamic IP address.

During installation, the Symphony Composer Installation Wizard will configure the Cordless Gateway to accept a dynamic IP address by default. Also, the Cordless Gateway will attempt to use the Computer Name of the first cordless computer you configure as the Host Name by default.

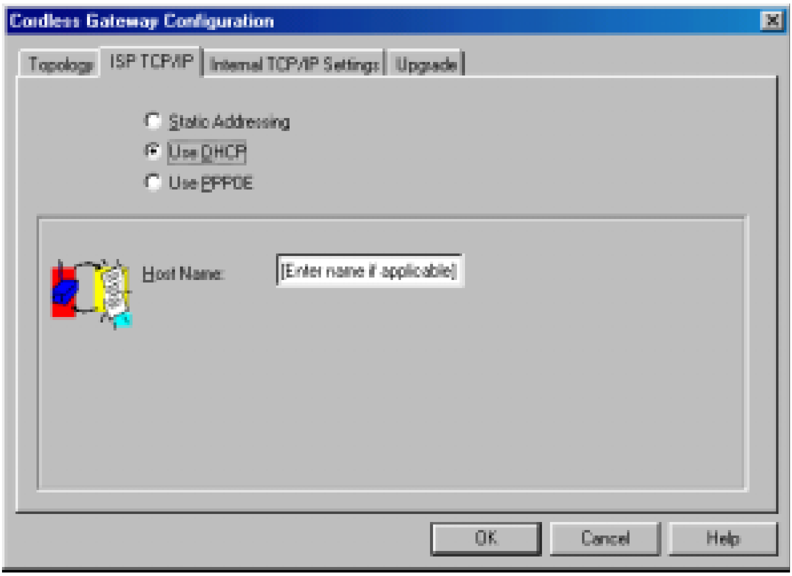
If you entered a static IP address during installation when you should have used DHCP or if you need to reconfigure the Host Name, you may change the ISP's TCP/IP parameters within the Symphony Maestro Configuration Tool, following the steps below:

1. Open the Symphony Maestro Configuration Tool on one of the cordless computers.

2. Click the <**Configure**> button under the Symphony-HRF Cordless Gateway Network heading.

3. Click the **ISP TCP/IP** tab within the Cordless Gateway Configuration screen.

4. Select the **Use DHCP** option, as shown in the following example.



○ Static Addressing
● Use DHCP
○ Use PPPOE

Host Name: [Enter name if applicable]

5. If your ISP requires a Host Name for verification purposes, enter this name in the **Host Name** field.

6. Click <**OK**> to save these changes.

7. The Cordless Gateway will restart automatically. This can take up to one minute.

8. After the Cordless Gateway has restarted, open the Symphony Maestro Configuration Tool again.

9. Click the <**Status**> button under the Symphony-HRF Cordless Gateway Network heading.

10. Confirm that the **DHCP Successful** entry reports **Yes.** This indicates that the Cordless Gateway successfully received a dynamic address assignment.

Point to Point Protocol over Ethernet (PPPoE)

Some ISPs use a technique known as Point to Point Protocol over Ethernet (PPPoE) to assign dynamic IP addressing information to their customers.

The PPPoE protocol requires that a customer enter a valid User Name and Password to establish a connection with the ISP's network and receive dynamic IP addressing information.

The Symphony Composer Installation Wizard does not support the configuration of PPPoE settings. If your ISP uses PPPoE, then you must configure these settings using the Symphony Maestro Configuration Tool.

Note:

Once you have configured the Cordless Gateway to use PPPoE, do not use the PPPoE client program installed on your cordless computer(s) to connect to the Internet.

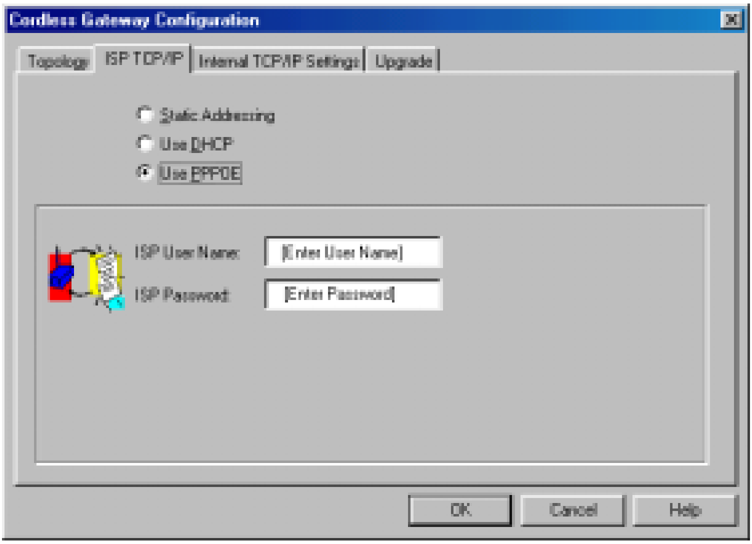
Follow these steps to configure the Cordless Gateway to use PPPoE:

1. Open the Symphony Maestro Configuration Tool on one of the cordless computers.

2. Click the <**Configure**> button under the Symphony-HRF Cordless Gateway Network heading.

3. Click the **ISP TCP/IP** tab within the Gateway's Configuration screen.

4. Select the **Use PPPoE** option, as shown below.



○ Static Addressing
○ Use DHCP
● Use PPPOE

ISP User Name: [Enter User Name]
ISP Password: [Enter Password]

5. Enter the ISP User Name.

6. Enter the ISP Password.

7. Click <**OK**> to save these changes.

8. Be patient while the Cordless Gateway restarts automatically.

9. After the Cordless Gateway has restarted, open the Symphony Maestro Configuration Tool again.

10. Click the <**Status**> button under the Symphony-HRF Cordless Gateway Network heading.

11. Confirm that the **PPPoE Successful** entry reports **Yes.** This indicates that the Cordless Gateway successfully logged in to the ISP's network and received a dynamic address assignment.

Note:

The Cordless Gateway must be connected to an Ethernet network or to a device that provides high-speed Internet access (e.g., a cable modem) during its boot-up cycle in order to obtain an IP address from the ISP via DHCP or PPPoE. If you believe that the Cordless Gateway should have received an IP address automatically from the ISP but it did not, confirm that the Link LED is on and try recycling power to the unit.

12. Your cordless computers should now be connected to the Internet via the Cordless Gateway. You should no longer need to use the PPPoE client program installed on your cordless computer(s) to connect to the Internet.

Configuring the Internal TCP/IP Settings

As described previously, the Cordless Gateway uses a technique known as Network Address Translation (NAT) to share a single Internet connection with multiple computers.

Note:

The Internal TCP/IP Settings are not applicable when the Cordless Gateway is operating in Transparent Bridging mode only.

NAT requires that the Cordless Gateway use two IP addresses, one to communicate with the ISP's network and the Internet and one to communicate internally with the cordless network.

In addition, the Cordless Gateway acts as a DHCP server to automatically assign IP addresses within the same internal IP network to the cordless computers (which are configured to accept a dynamic address by default).

By default, the Cordless Gateway is assigned an internal IP address of 10.0.0.1 and a subnet mask of 255.0.0.0.

If your ISP or Ethernet network is using the 10.0.0.0 IP network, then the Cordless Gateway's default internal IP settings will conflict with this other network's IP settings. In this case, the Cordless Gateway will automatically detect this conflict and change its IP address and subnet mask to new values.

Note:

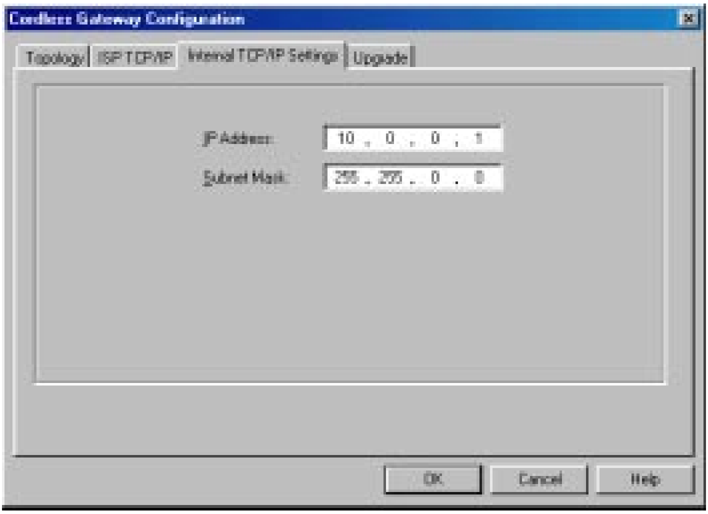
The range of IP addresses assigned to cordless computer by the Cordless Gateway will also change based on the new IP address and subnet mask.

Given the above, there should be no need to change the Cordless Gateway's IP address and subnet mask. However, if you desire to change these parameters, follow these steps:

1. Open the Symphony Maestro Configuration Tool on one of the cordless computers.

2. Click the <**Configure**> button under the Symphony-HRF Cordless Gateway Network heading.

3. Select the **Internal TCP/IP Settings** tab within the Cordless Gateway Configuration screen, as shown in the following example.



IP Address: 10 . 0 . 0 . 1

Subnet Mask: 255 . 255 . 0 . 0

Note:
Proxim recommends that only advanced users who are familiar with the TCP/IP protocol change the Cordless Gateway's Internal TCP/IP Settings.

4. Enter a new IP address for the Cordless Gateway.

5. Enter a new subnet mask for the Cordless Gateway.

Note:
You must use a subnet mask that is valid for the class of IP address you entered and provides at least 4 bits of addressing space for the local network.

6. Click <**OK**> to save these changes.

7. The Cordless Gateway will be restarted automatically.

Example 1:
If you change the Cordless Gateway's Internal IP address to 192.168.0.1 with a subnet mask of 255.0.0.0, this value will be rejected by the Symphony Maestro Configuration Tool. Since 192.168.0.1 is a Class C IP address, you must assign a subnet mask of at least 255.255.255.0.

Example 2:
If you change the Cordless Gateway's Internal IP address to 192.168.0.1 with a subnet mask of 255.255.255.248, this value will be rejected by the Symphony Maestro Configuration Tool. The 4th octet of the subnet mask does not provide 4 bits of addressing space. However, a subnet mask of 255.255.255.240 is valid since it provides 4 bits of addressing space for the local network.

TCP/IP Configuration for Cordless Computers in NAT Topologies

By default, the installation of a Symphony-HRF or Symphony adapter will add several networking components to a computer's Network Configuration, including Client for Microsoft Networks, the TCP/IP protocol, and File and Printer Sharing for Microsoft Networks, if not already present.

The installation procedure will also assign the computer the workgroup designation of "WORKGROUP." If the computer already has an existing workgroup name, this name will be overwritten and saved in the Original Profile.

During installation, each Symphony-HRF or Symphony adapter is configured to accept an IP address assignment from the Cordless Gateway, which acts as a DHCP server. For more information about this, refer to the section entitled "Configuring the Internal TCP/IP Settings."

To find out what address has been assigned to a particular Symphony-HRF or Symphony adapter in a Windows 95/98/ME computer, follow these steps:

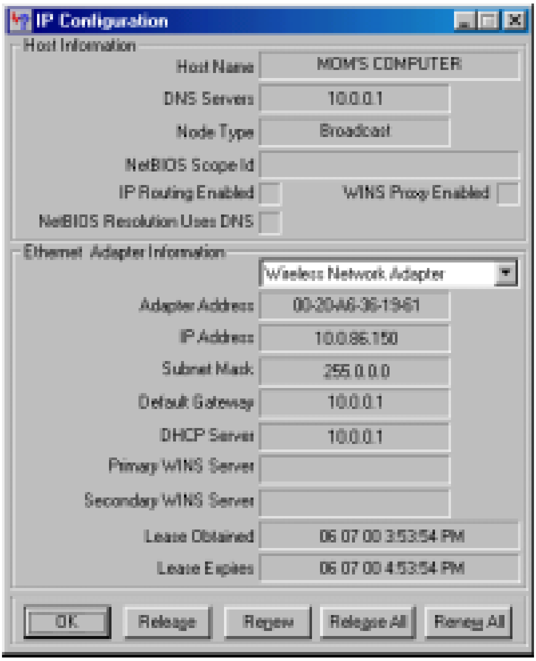
1. Select the **Run** option under the Start Menu.

2. Type **WINIPCFG** in the field labeled **Open**. This will launch the Windows IP Configuration tool.

3. Click <**More Info>>**> to view the full screen.

In the following example, the Symphony adapter has been automatically assigned an IP address of 10.0.86.150 with a subnet mask of 255.0.0.0.

In addition, the adapter's default gateway, primary DNS server, and DHCP server are all 10.0.0.1, which is the Cordless Gateway's internal IP address.



Host Name MOM'S COMPUTER
DNS Servers 10.0.0.1
Node Type Broadcast
NetBIOS Scope Id
IP Routing Enabled ☐ WINS Proxy Enabled ☐
NetBIOS Resolution Uses DNS ☐
Wireless Network Adapter
Adapter Address 00-20-A6-36-19-61
IP Address 10.0.86.150
Subnet Mask 255.0.0.0
Default Gateway 10.0.0.1
DHCP Server 10.0.0.1
Primary WINS Server
Secondary WINS Server
Lease Obtained 06 07 00 3:53:54 PM
Lease Expires 06 07 00 4:53:54 PM

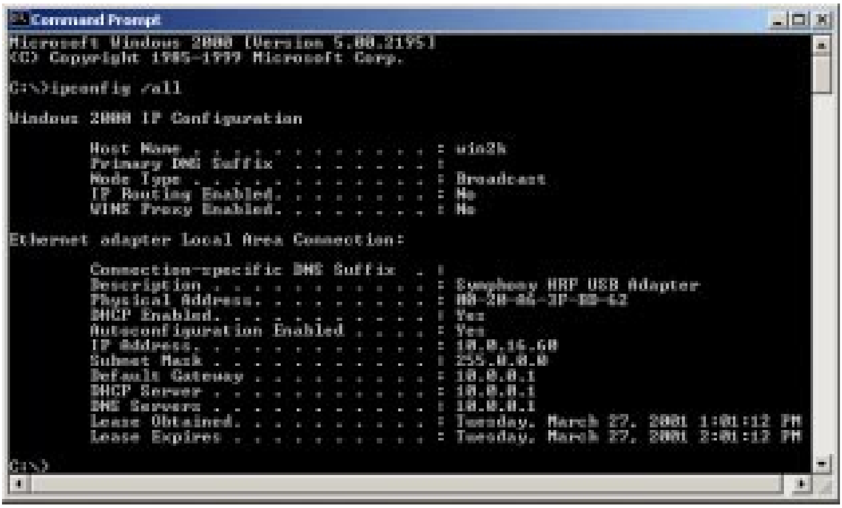
If the Symphony adapter fails to receive an address from the Cordless Gateway, click **<Release>** and then **<Renew>** to request a new address. Alternatively, try restarting the computer; the computer should request an address assignment during boot-up.

To find out what address has been assigned to a particular Symphony-HRF adapter in a Windows 2000 Professional computer, follow these steps:

1. Open the Start Menu's Accessories folder and choose **Command Prompt** to open a DOS window.

2. Type **IPCONFIG /ALL** at the C:\> DOS prompt.

In the following example, the Symphony-HRF adapter has been automatically assigned an IP address of 10.0.16.60 with a subnet mask of 255.0.0.0.



```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-1999 Microsoft Corp.

C:\>ipconfig /all

Windows 2000 IP Configuration

        Host Name . . . . . . . . . . . . : win2k
        Primary DNS Suffix  . . . . . . . :
        Node Type . . . . . . . . . . . . : Broadcast
        IP Routing Enabled. . . . . . . . : No
        WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix  . :
        Description . . . . . . . . . . . : Symphony HRF USB Adapter
        Physical Address. . . . . . . . . : 00-20-A6-3F-BB-62
        DHCP Enabled. . . . . . . . . . . : Yes
        Autoconfiguration Enabled . . . . : Yes
        IP Address. . . . . . . . . . . . : 10.0.16.60
        Subnet Mask . . . . . . . . . . . : 255.0.0.0
        Default Gateway . . . . . . . . . : 10.0.0.1
        DHCP Server . . . . . . . . . . . : 10.0.0.1
        DNS Servers . . . . . . . . . . . : 10.0.0.1
        Lease Obtained. . . . . . . . . . : Tuesday, March 27, 2001 1:01:12 PM
        Lease Expires . . . . . . . . . . : Tuesday, March 27, 2001 2:01:12 PM

C:\>
```

In addition, the adapter’s default gateway, DNS server, and DHCP server are all 10.0.0.1, which is the Cordless Gateway’s internal IP address.

If the Symphony-HRF adapter fails to receive an address from the Cordless Gateway, try restarting the computer: the computer should request an address assignment during boot-up.

Note that for most cordless networks using NAT you should not need to change the TCP/IP parameters for the Symphony adapters.

Configuring a Cordless Network to Use Transparent Bridging

The Symphony-HRF Cordless Gateway performs a function known as Transparent Bridging to allow cordless computers to communicate with an Ethernet network.

See the section entitled “Understanding Transparent Bridging” earlier this chapter for additional information.

The following sections describe the TCP/IP configuration of the Cordless Gateway and cordless computers when operating in Transparent Bridging mode only.

Configuring TCP/IP Settings for the Cordless Gateway

The Cordless Gateway does not require any TCP/IP configuration when configured to operate in Transparent Bridging mode only.

TCP/IP Configuration for Cordless Computers in Transparent Bridging Only Topologies

In order for Ethernet computers and cordless computers to communicate as part of the same LAN, you must configure all devices (Ethernet and Symphony) to use the same IP network.

By default, a Symphony adapter is configured to accept an IP address from a DHCP server. If a DHCP server is not present, then the adapter will automatically configure itself with an IP address in the 169.254.0.0 network (this address range is reserved for private networks and is not valid on the Internet).

If your Ethernet network uses DHCP to assign dynamic IP addresses, refer to the section below entitled “Networks That Use Dynamic Addressing” for configuration instructions.

If your Ethernet network uses static IP addresses, refer to the section below entitled “Networks That Use Static Addressing” for configuration instructions.

Note:

A Symphony-HRF or Symphony adapter acts like a standard Ethernet card once installed. The adapter can use any existing IP address scheme already in use by Ethernet devices and can also be configured to use any additional networking protocols, such as NetBEUI or IPX/SPX, already installed on the network.

Networks That Use Dynamic Addressing

A dynamic address is a temporary IP address assigned to a network computer that must be renewed periodically. Most networks that support dynamic addressing employ a protocol called Dynamic Host Configuration Protocol (DHCP).

When you turn on a computer configured to use dynamic addressing, it requests an address assignment from the network's DHCP server. In response, the server assigns the computer an available IP address for a specified period of time.

The computer uses the assigned IP address for a day, a month, or even longer depending on the length of the lease. Prior to the expiration date, the client will attempt to renew its lease to provide uninterrupted connectivity.

In the event that the client loses its lease, it simply requests another address assignment, at which time the client should receive either the same address or a new address from the DHCP server.

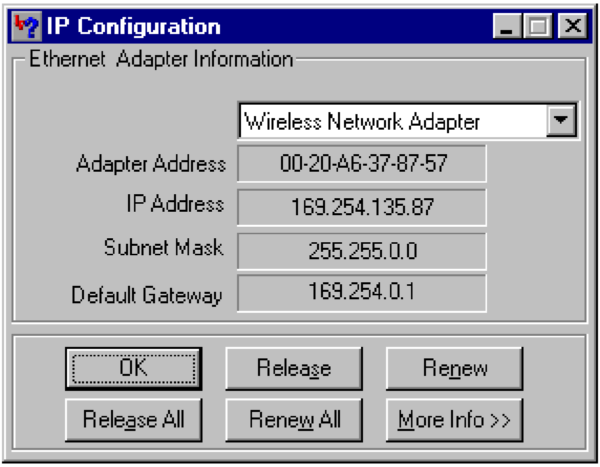
If you have a DHCP server already on your network, then no additional configuration is necessary since a cordless computer should automatically receive an address assignment from the network's DHCP server.

To find out what address has been assigned to a particular Symphony-HRF or Symphony adapter in a Windows 95/98/ME computer, follow these steps:

1. Select the **Run** option under the Start Menu.

2. Type **WINIPCFG** in the field labeled **Open**. This will launch the Windows IP Configuration tool.

In the example below, the computer failed to receive an dynamic address and has auto-assigned itself an IP address in the 169.254.0.0 network.



Wireless Network Adapter
Adapter Address: 00-20-A6-37-87-57
IP Address: 169.254.135.87
Subnet Mask: 255.255.0.0
Default Gateway: 169.254.0.1

If you have a DHCP server on your Ethernet network and a cordless computer failed to receive an IP address, follow these steps:

1. Select the **Run** option under the Start Menu.

2. Type **WINIPCFG** in the field labeled **Open**. This will launch the Windows IP Configuration tool.

3. Click <**Release**> to cancel any existing address assignment.

4. Click <**Renew**> to request a new address.

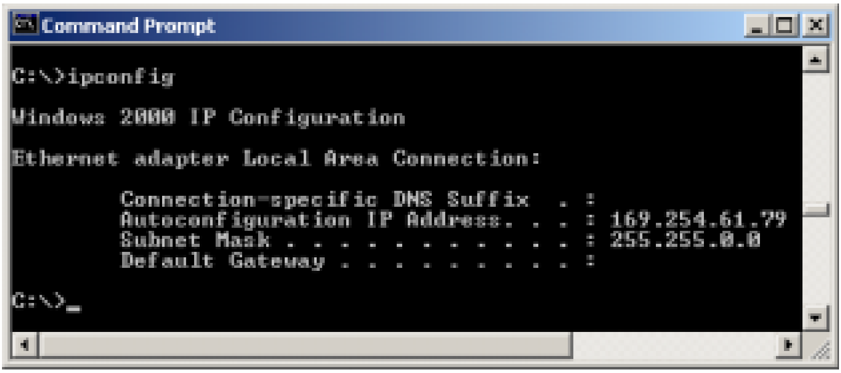
Alternatively, try restarting the computer; the computer should request an address assignment during boot-up.

To find out what address has been assigned to a particular Symphony-HRF adapter in a Windows 2000 Professional computer, follow these steps:

1. Open the Start Menu's Accessories folder and choose **Command Prompt** to open a DOS window.

2. Type **IPCONFIG** at the C:\> DOS prompt.

In the example below, the computer failed to receive an dynamic address and has auto-assigned itself an IP address in the 169.254.0.0 network.



```
C:\>ipconfig

Windows 2000 IP Configuration

Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix  . :
        Autoconfiguration IP Address. . . : 169.254.61.79
        Subnet Mask . . . . . . . . . . . : 255.255.0.0
        Default Gateway . . . . . . . . . :

C:\>_
```

If you have a DHCP server on your Ethernet network and a cordless computer failed to receive an IP address, try restarting the computer: the computer should request an address assignment during boot-up.

Networks That Use Static Addressing

A static address is a permanent IP address that you assign to a network computer. This address never expires. Likewise, the associated subnet mask, default gateway, and DNS (Domain Name System) entries also do not expire once configured.

If you do not have a DHCP server on your Ethernet network, then you must configure the Symphony-HRF and Symphony adapters with static IP information that matches the IP addressing scheme already employed on the Ethernet network.

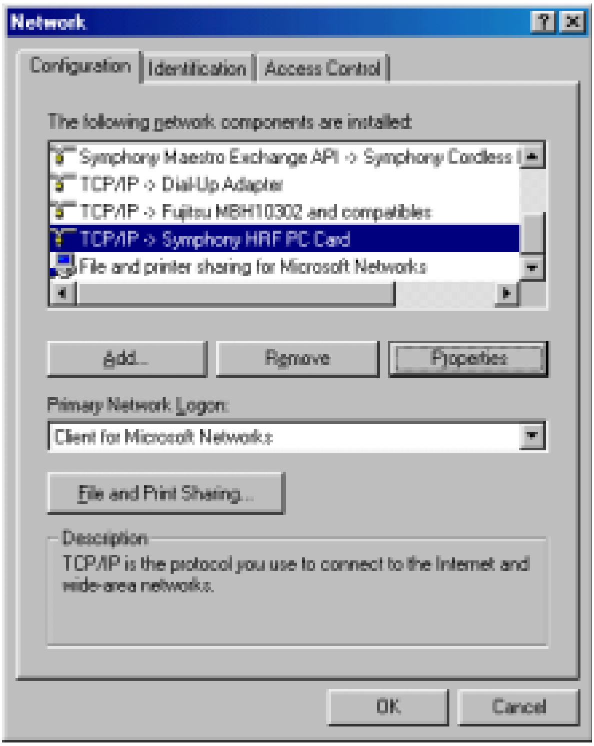
This includes assigning each cordless computer a unique IP address within the specified IP network as well as the subnet mask, default gateway, and DNS information shared by all network computers.

Follow these steps to configure a Symphony adapter in a Windows 95/98/ME computer with static IP addressing information:

1. Open the **Control Panel**, located within the Start Menu’s Setting folder.

2. Double-click the **Network** icon.

3. Scroll through the list of network components and highlight the **TCP/IP -> Symphony Adapter** entry (or the **TCP/IP** entry if only one exists), as shown below.



The following network components are installed:

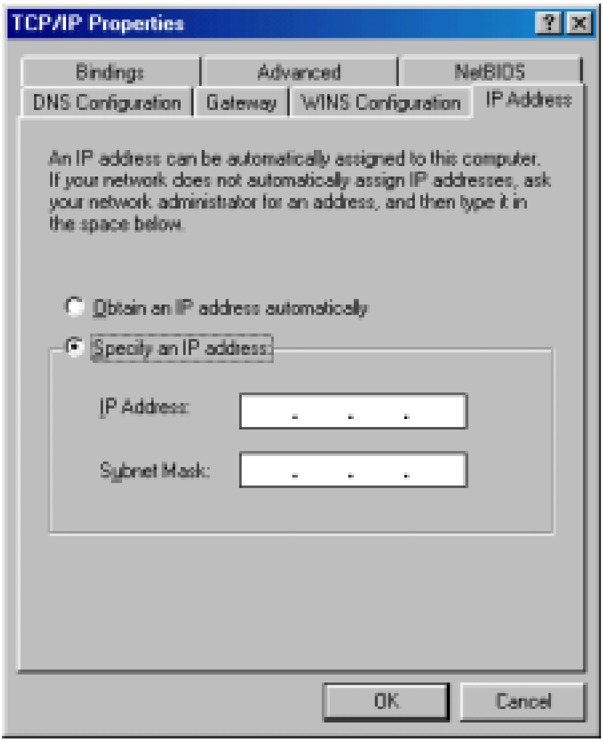
- Symphony Maestro Exchange API -> Symphony Cordless I
- TCP/IP -> Dial-Up Adapter
- TCP/IP -> Fujitsu MBH10302 and compatibles
- TCP/IP -> Symphony HRF PC Card
- File and printer sharing for Microsoft Networks

Primary Network Logon: Client for Microsoft Networks

TCP/IP is the protocol you use to connect to the Internet and wide-area networks.

4. Click <**Properties**>.

5. Select the **Specify an IP address:** option, as shown in the following example.



An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.

○ Obtain an IP address automatically

● Specify an IP address:

IP Address: . . .

Subnet Mask: . . .

6. Enter an IP address that is valid on the Ethernet network and not already assigned to another device.

7. Enter the Ethernet network's subnet mask.

8. Click the **Gateway** tab.

9. Enter the address of the Ethernet network's default gateway in the field provided and click <**Add**>.

10. Click the **DNS Configuration** tab.

11. Select the **Enable DNS** option.

12. Enter the Ethernet network's Host Name and Domain Name, if applicable.

13. Enter the Ethernet network's DNS Server address in the DNS Server Search Order field and click **<Add>**.

14. Repeat Step #13 if the network has multiple DNS Server entries.

15. Click <**OK**> to save the changes.

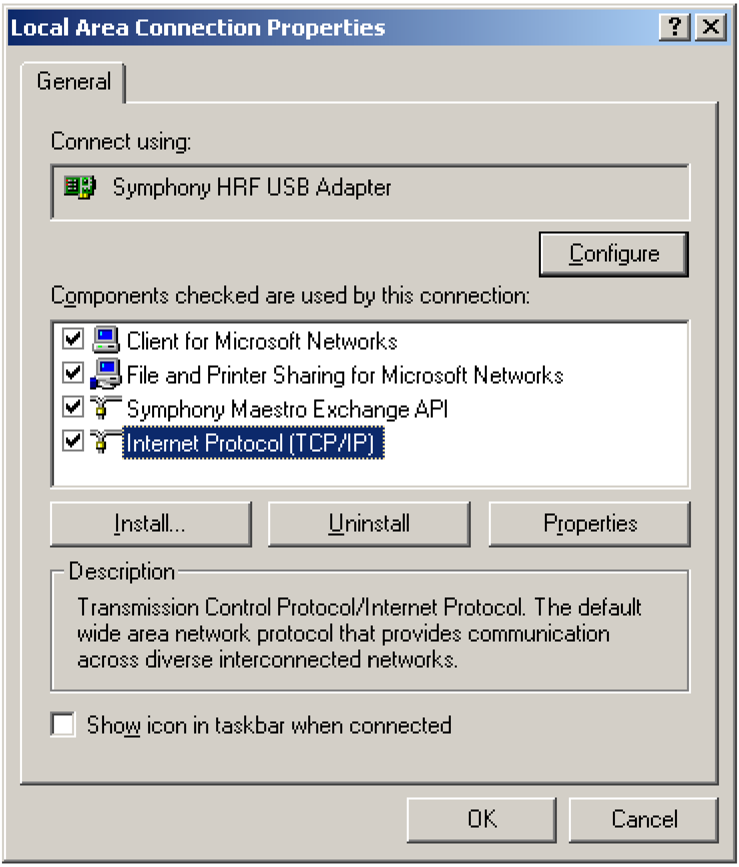
16. Restart the computer when prompted.

Follow these steps to configure a Symphony-HRF adapter in a Windows 2000 Professional computer with static IP addressing information:

1. Double-click the **Network and Dial-up Connections** entry within the Start Menu's Setting folder.

2. Right-click the **Local Area Connection** that corresponds to the Symphony adapter and choose **Properties** from the drop-down menu.

3. Highlight the **Internet Protocol (TCP/IP)** entry, as shown in the following example.



Connect using:
Symphony HRF USB Adapter

Components checked are used by this connection:

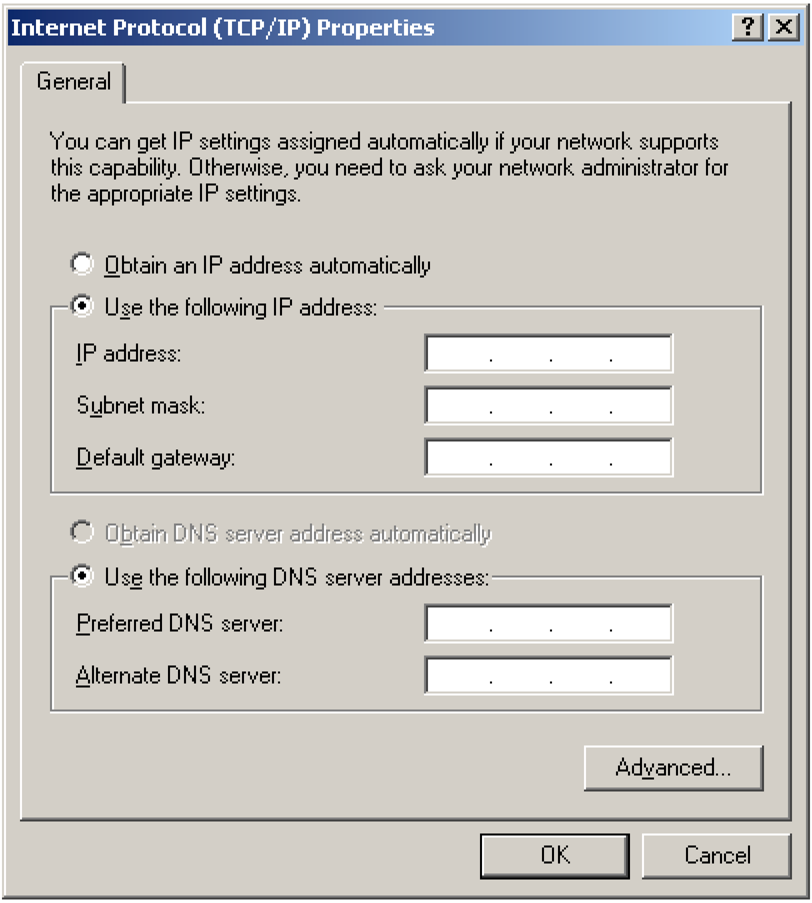
☑ Client for Microsoft Networks
☑ File and Printer Sharing for Microsoft Networks
☑ Symphony Maestro Exchange API
☑ Internet Protocol (TCP/IP)

Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

☐ Show icon in taskbar when connected

4. Click <**Properties**>.

5. Select the **Use the following IP address:** option, as shown in the following example.



You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically

● Use the following IP address:

IP address: . . .

Subnet mask: . . .

Default gateway: . . .

○ Obtain DNS server address automatically

● Use the following DNS server addresses:

Preferred DNS server: . . .

Alternate DNS server: . . .

6. Enter an IP address that is valid on the Ethernet network and not already assigned to another device.

7. Enter the Ethernet network’s subnet mask.

8. Enter the Ethernet network’s default gateway.

9. Enter the Ethernet network's DNS server address in the **Preferred DNS server:** field.

10. Enter a second address in the **Alternate DNS server:** field if the network has multiple DNS servers.

11. Click <**OK**> to save the changes.

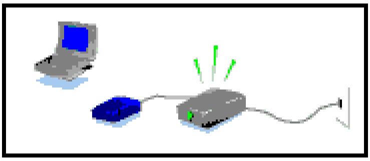
12. Restart the computer if prompted.

Configuration Examples

The following examples provide configuration information for a number of different network architectures supported by the Symphony-HRF Cordless Gateway. Refer to the heading below that corresponds to the type of network you have installed for configuration instructions.

A Cordless Gateway Connected Directly to a Cable Modem, DSL Modem, or ISDN Router

If you have a device which provides high-speed Internet access, such as an ISDN router, external cable modem, or external DSL modem connected directly to a Symphony-HRF Cordless Gateway, your network should look something like the following:



The network should consist of a number of computers each with a Symphony-HRF or Symphony adapter installed and a Cordless Gateway connected to the high-speed Internet device.

In this configuration, the following changes are required:

Changes to the Cordless Gateway's Topology Parameter

No change is required to this parameter.

However, changing the Cordless Gateway's mode so that it performs NAT only (instead of both NAT and Transparent Bridging) will not adversely affect network operation.

Changes to the Cordless Gateway's TCP/IP Parameters

If your ISP uses DHCP to assign IP addresses, then no change is required for these settings.

If your ISP has assigned you static TCP/IP information (IP address, subnet mask, default gateway, and DNS server addresses), you need to configure the Cordless Gateway's ISP TCP/IP parameters.

If your ISP uses PPPoE, you need to configure the Cordless Gateway's ISP TCP/IP parameters.

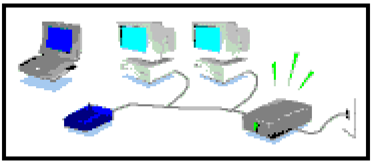
See the section entitled "Configuring the ISP TCP/IP Parameters" earlier this chapter for details.

Changes to Cordless Gateway Clients

No change is required for computers that have a Symphony-HRF or Symphony adapter installed.

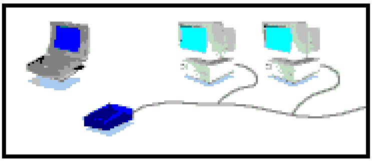
A Cordless Gateway Connected to an Ethernet Network That Has Shared Internet Access or If Internet Access Is Not Required

If the Cordless Gateway connects to a hub on an existing Ethernet network which has shared Internet access, your network should look something like the following:



The network should consist of a number of computers each with a Symphony-HRF or Symphony adapter installed and a Cordless Gateway connected to a hub with no more than 8 Ethernet devices attached. A device that provides high-speed Internet access, such as an ISDN router, cable modem, or DSL modem, is also connected to the hub or is acting as the hub.

If the Cordless Gateway connects to a hub on an existing Ethernet network that does not have shared Internet access (or you do not want to provide the cordless computers with Internet access), then your network should look something like the following:



The network should consist of a number of computers each with a Symphony-HRF or Symphony adapter installed and a Cordless Gateway connected to either a hub with no more than 8 Ethernet devices attached or to a single stand-alone Ethernet-ready computer.

The following changes are required for either one of these configurations:

Changes to the Cordless Gateway's Topology Parameter

Configure the Cordless Gateway so that it performs Transparent Bridging only.

See the section entitled "Configuring the Topology Parameter" earlier this chapter for details.

Changes to the Cordless Gateway's TCP/IP Parameters

There is no change required for these parameters.

Changes to Cordless Gateway Clients

If you have a DHCP server on your network, then no change is necessary since the cordless computers will automatically receive an address assignment from the Ethernet network's DHCP server.

If you do not have a DHCP server on the Ethernet network, then you must configure the TCP/IP settings on each cordless computer as if you were adding additional Ethernet computers to the network.

See the section entitled "TCP/IP Configuration for Cordless Computers in Transparent Bridging Only Topologies" for details.

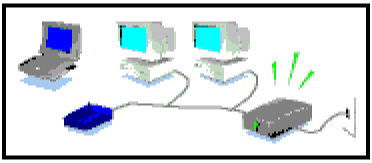
Note:

A Symphony-HRF or Symphony adapter acts like a standard Ethernet card once installed. The adapter can use any existing IP address scheme already in use by Ethernet devices and can also be configured to use any additional networking protocols, such as NetBEUI or IPX/SPX, already installed on the network.

A Cordless Gateway Connected to an Ethernet Network That Has Limited Internet Access

If your Ethernet network does not provide shared Internet access and your ISP has assigned you a limited number of IP addresses so that there are not enough IP addresses allocated for each Ethernet and cordless computer, then you can use the Cordless Gateway in NAT mode to provide Internet connectivity to the entire cordless network using a single IP address.

In this configuration, a Cordless Gateway connects to a hub on an Ethernet network, as shown below.



The network should consist of a number of computers each with a Symphony-HRF or Symphony adapter installed and a Cordless Gateway connected to a hub with no more than 8 Ethernet devices attached.

A device that provides high-speed Internet access, such as an ISDN router, cable modem, or DSL modem, may also be connected to the hub or may be attached directly to one of the Ethernet computers.

In this type of configuration where the ISP has assigned you a limited number of IP addresses, make the following changes to the Cordless Gateway and cordless computers:

Changes to the Cordless Gateway's Topology Parameter

No change is required to this parameter.

The Cordless Gateway should be configured to perform both NAT and Transparent Bridging by default.

Changes to the Cordless Gateway's TCP/IP Parameters

If your ISP uses DHCP to assign IP addresses, then no changes to the configuration are necessary.

If your ISP has assigned you static TCP/IP information (IP address, subnet mask, default gateway, and DNS server addresses), you need to configure the Cordless Gateway's ISP TCP/IP parameters.

If your ISP uses PPPoE, you need to configure the Cordless Gateway's ISP TCP/IP parameters.

See the section entitled "Configuring the ISP TCP/IP Parameters" earlier this chapter for details.

Changes to Cordless Gateway Clients

No change is required to the TCP/IP parameters for computers that have a Symphony-HRF or Symphony adapter installed. The cordless computers will receive IP address assignments from the Cordless Gateway and use the TCP/IP protocol to access the Internet.

However, configure all of your computers (both Ethernet and Symphony) to use a second networking protocol, such as NetBEUI or IPX/SPX, to allow them to share files and printers and appear to be a part of the same LAN. When performing both NAT and Transparent Bridging, the Cordless Gateway will bridge all protocols except TCP/IP.

A Cordless Gateway Connected to a Network with a Server

If the Cordless Gateway connects either to an existing network containing a network server or directly to a server, refer to the section entitled "A Cordless Gateway Connected to an Ethernet Network That Has Shared Internet Access or If Internet Access Is Not Required" for configuration information.

In addition, if the server has access to the Internet, it may be possible to install a third-party proxy software program so that it can allow the other computers on the network to share this Internet connection. Contact your local computer retailer to find out what software packages are available that perform this proxy function.

File Sharing

During installation, the Symphony Composer Installation Wizard generates a list of available drives which the computer may share with the network. The list of drives includes not only hard drives, but also any floppy disk drives, CD-ROM drives, and Iomega Zip drives that the Composer finds on the computer.

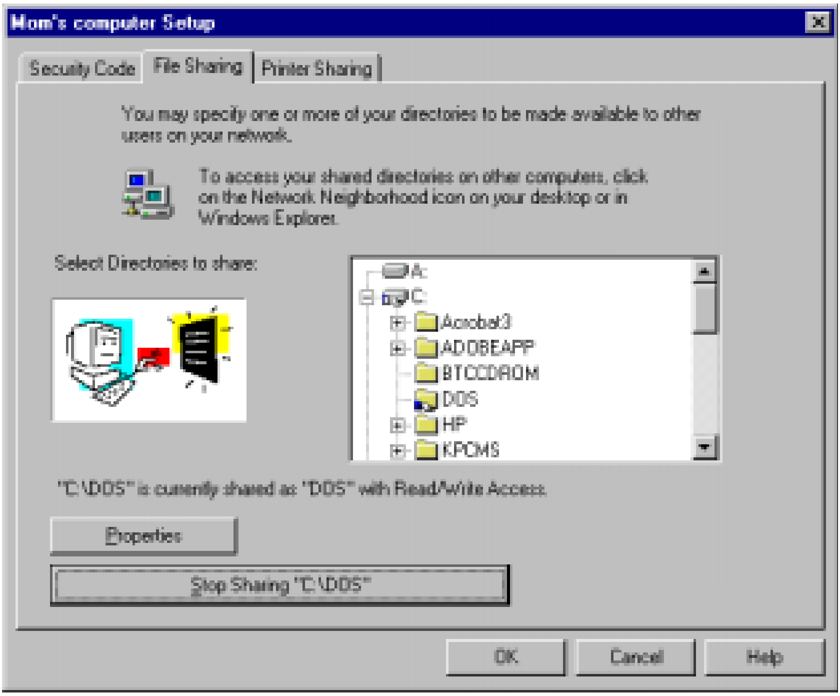
The Symphony Composer Installation Wizard then prompts you to place a check mark next to each drive you want to share with the network and select an access level (Read/Write or Read Only).

After the Symphony Composer Installation Wizard completes the configuration of the Symphony software, the drives you specified will be available to other users on the network.

At any time, you may change which drives are shared from within the Symphony Maestro Configuration Tool by clicking the <**Configure**> button below the Symphony Network Status heading and choosing the **File Sharing** tab.

The Symphony Maestro Configuration Tool also allows you to select specific directories for sharing so that you do not need to provide remote users with access to an entire drive. Therefore, you can limit the amount of information that is available over the network.

If you only want to provide access to a specific set of files contained in the same directory, then you can choose to share only that directory. In the example below, only the folder labeled “DOS” on the C: drive is shared with the rest of the network.



You may specify one or more of your directories to be made available to other users on your network.

To access your shared directories on other computers, click on the Network Neighborhood icon on your desktop or in Windows Explorer.

Select Directories to share:

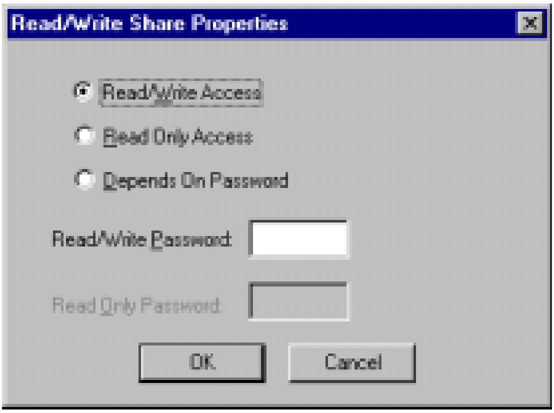
"C:\DOS" is currently shared as "DOS" with Read/Write Access.

In addition, you may also change the access level (Read/Write or Read Only) provided to remote users. Read/Write access allows a remote user to view, copy, create, and delete files on the shared drive. Read Only access allows a remote user to view and copy files on the shared drive. This feature allows you to determine what information is made generally available to the rest of the network and what information should reside only on the local computer.

After you select a folder or drive to share, the Maestro tool will prompt you to choose the type of access remote users will have to the shared resource, as shown in the following example.

Note:

Read/Write and Read Only passwords do not apply to Windows 2000 Professional computers. For information on Windows 2000 file sharing security, refer to the documentation that came with your Windows 2000 Professional computer.



Read/Write Share Properties

● Read/Write Access

○ Read Only Access

○ Depends On Password

Read/Write Password:

Read Only Password:

By default, Maestro will grant remote users Read/Write access to the shared resource. If you want to allow this type of access to remote users but prohibit unauthorized access, enter a password in the field labeled **Read/Write Password** and click <**OK**>.

If you want to grant Read Only access to remote users, select the **Read Only Access** entry. You may also set a Read Only Password to prevent unauthorized access.

Finally, if you select **Depends on Password**, you may set two different passwords, one for Read/Write access and the other for Read Only access, to allow full access to some users and partial access to others.

At any time, you can reset the access options for a particular drive or folder by highlighting its entry in the **Select Directories to share** list and clicking the <**Properties**> button.

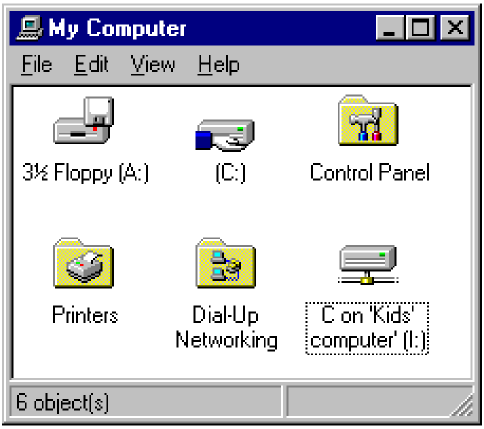
Warning!

Proxim recommends that you establish passwords for each drive that you share on the local area network. Depending on the type of Internet connection you have, others may be able to see your computers in their Network Neighborhood or My Network Places icon and have unauthorized access to your drives.

Once you have determined which drives or directories to share with other users, you now need a method to access these shared files from remote computers. The Symphony Maestro Configuration Tool includes a feature called Remote Drive Sharing that provides a computer with access to shared files over the network. This feature is described below.

Remote Drive Sharing

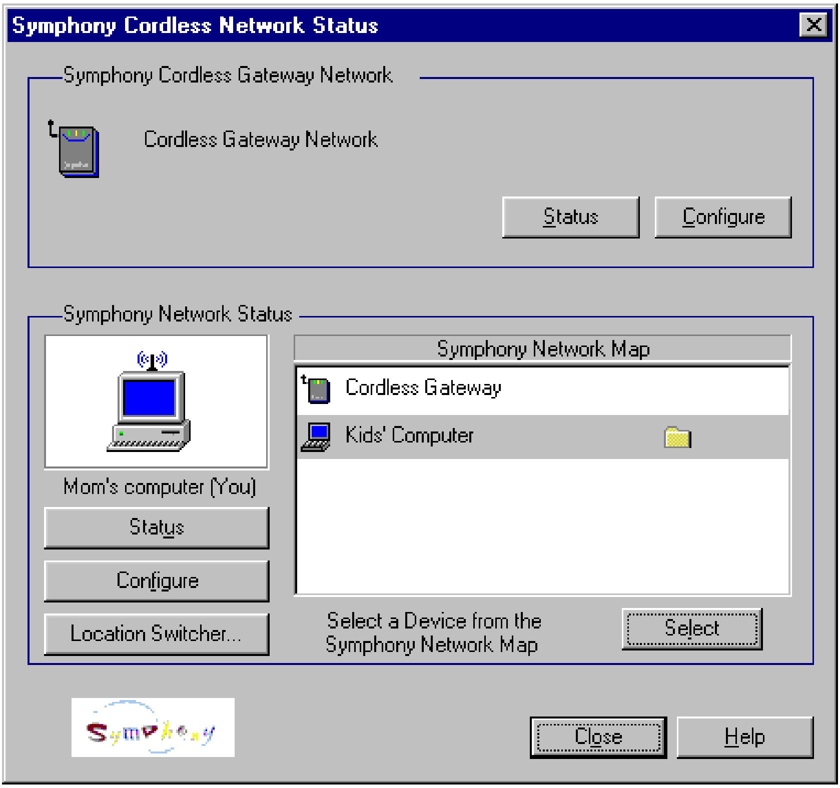
From within the Symphony Maestro Configuration Tool, you can assign a remote drive a drive letter on the local computer. For example, the C: drive of a remote computer may be assigned to the I: drive of the local computer. Once this remote drive share has been established, the remote drive will appear to be another drive in the local computer's My Computer icon, as shown in the following screen shot:



This process is also called "mapping" a network drive. A mapped network drive automatically reestablishes the connection each time the computer is restarted. You can establish drive letters for not only remote shared drives, but also for remote shared directories.

To create a remote drive share, follow these steps:

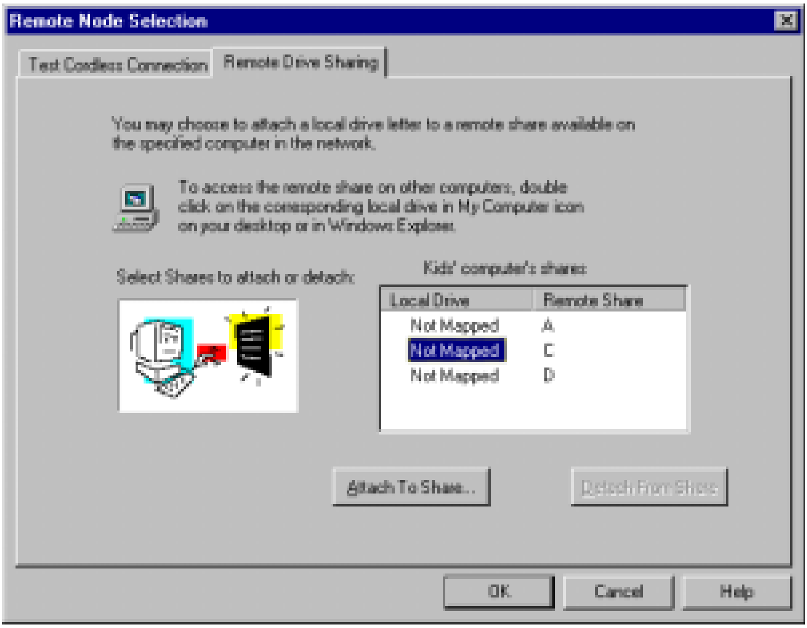
1. Open the Symphony Maestro Configuration Tool and refer to the Symphony Network Map, shown in the following example.



2. Highlight the name of the remote computer to which you want to attach.

3. Click the <**Select**> button (alternatively, you may simply double-click the name of the remote computer). In the example above, the local computer is called "Mom's computer" and the remote computer is called "Kids' computer."

4. Click the **Remote Drive Sharing** tab to view a list of shared drives or directories on the remote computer, as shown in the following example.



You may choose to attach a local drive letter to a remote share available on the specified computer in the network.

To access the remote share on other computers, double click on the corresponding local drive in My Computer icon on your desktop or in Windows Explorer.

Select Shares to attach or detach:

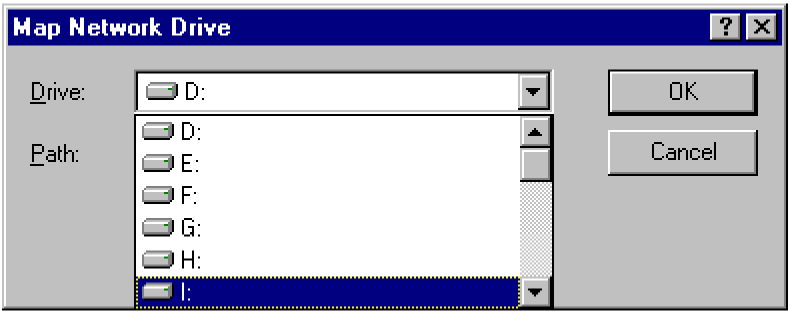
Kids' computer's shares

Local Drive	Remote Share
Not Mapped	A
Not Mapped	C
Not Mapped	D

5. Highlight the name of a remote shared resource.

6. Click the <**Attach to Share**> button.

7. Select the drive letter on the local computer to assign to the shared resource using the drop-down menu. In the example below from a Windows 95/98/ME computer, the C: drive on the computer named “Kid’s computer” is mapped to the local computer’s I: drive.



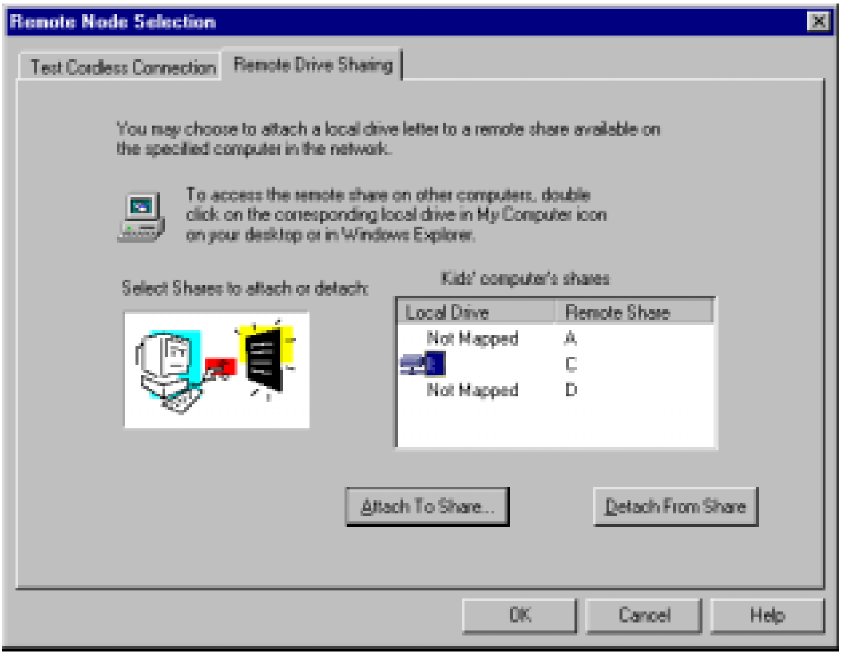
Drive: D:

Path:

- D:
- E:
- F:
- G:
- H:
- I:

8. Click <**OK**>.

The mapped drive letter should now appear to the left of the remote drive in the list of shared resources, as shown below.



You may choose to attach a local drive letter to a remote share available on the specified computer in the network.

To access the remote share on other computers, double click on the corresponding local drive in My Computer icon on your desktop or in Windows Explorer.

Select Shares to attach or detach:

Kids' computer's shares

Local Drive	Remote Share
Not Mapped	A
[illegible]	C
Not Mapped	D

Once the remote drive is established, you may view the contents of the shared drive or directory by double-clicking the appropriate drive letter in the My Computer icon located on the Windows desktop; the remote computer's shared drive will appear to be another drive on the local computer.

In the future, if you want to disconnect a shared drive mapping, highlight the name of the remote shared resource in the Remote Drive Sharing screen and click the <**Detach From Share**> button.

Printer Sharing

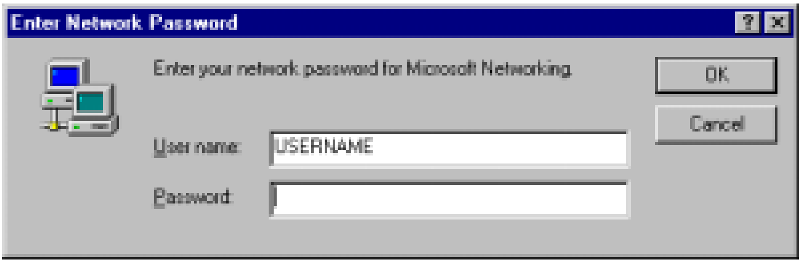
The cordless network utilizes the built-in printer-sharing capabilities of Windows. Figure 9 shows a cordless network consisting of a laptop and a desktop computer that has a printer attached. The laptop can print documents to the desktop's printer over the cordless network.

Figure 9
Symphony Cordless Network Sharing a Printer

During installation, the Symphony Composer Installation Wizard generates a list of available printers which the computer may share with the network. Place a check mark next to each printer that you want to share. You may also change your shared printers selection at any time from within the Symphony Maestro Configuration Tool.

Once the Symphony installation is complete, the network computers will be ready to share printers. Follow these instructions to install a remote printer:

1. **Logon to the Network.** Each time you restart a network computer, you may be prompted to provide a Microsoft Networking User name and Password to logon to the network, as shown in the following example from a Windows 95/98/ME computer.



Enter Network Password

Enter your network password for Microsoft Networking.

User name: USERNAME

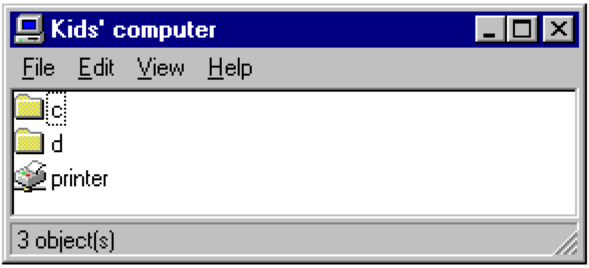
Password:

Enter your Password and click <**OK**> to enable the computer's network functions. Do NOT click the <**Cancel**> button.

Note:

*You must enter a User name and Password to log onto the network. If you choose <**Cancel**>, you will be unable to access network resources.*

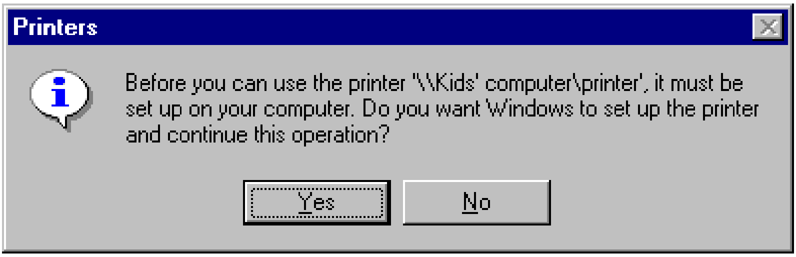
2. **Go to the Network Neighborhood or My Network Places icon.** After two or more computers have logged onto the network, double-click the **Network Neighborhood** (Windows 95/98) or **My Network Places** (Windows ME/2000) icon on the Windows desktop to see what shared printers are available. In the example below, the remote computer, named "Kids' computer," is sharing a printer called "printer."



Hint:

The Network Neighborhood or My Network Places icon is typically located below the My Computer icon on the Windows desktop. For Windows ME/2000, click the Entire Network option within the My Network Places icon to view the list of computers found on the network.

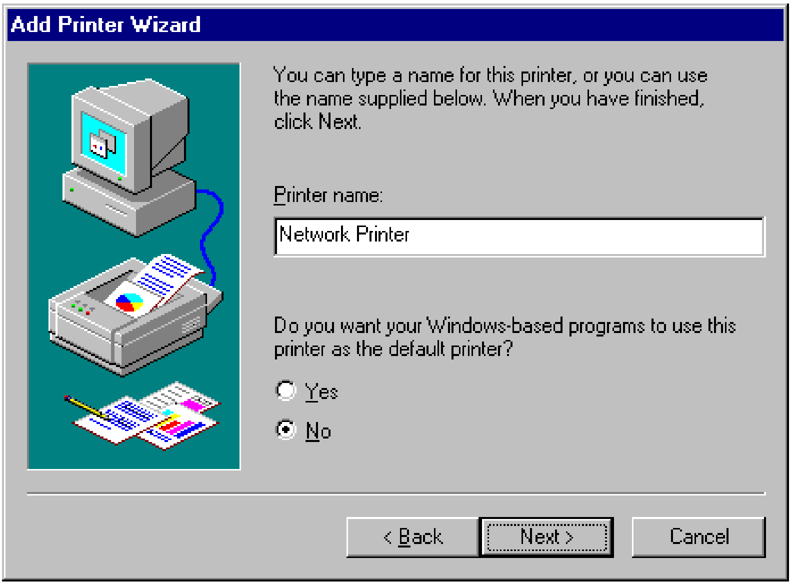
3. **Double-click to Begin the Installation.** Double-click the shared printer's Network Neighborhood or My Network Places icon entry to begin the installation of the remote printer. If this printer has not been installed previously, the following dialog box will appear:



Before you can use the printer '\\Kids' computer\printer', it must be set up on your computer. Do you want Windows to set up the printer and continue this operation?

Click <**Yes**> to continue.

4. **Run the Add Printer Wizard.** The computer will now launch the Add Printer Wizard, shown below.



You can type a name for this printer, or you can use the name supplied below. When you have finished, click Next.

Printer name:

Network Printer

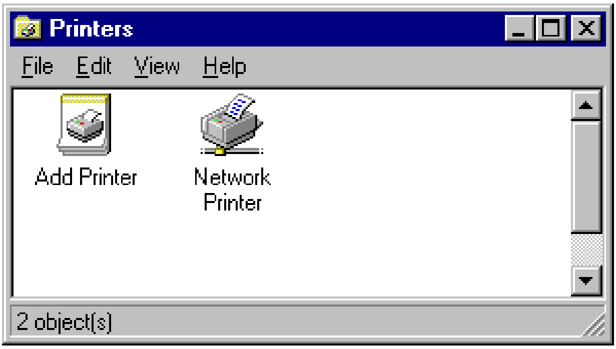
Do you want your Windows-based programs to use this printer as the default printer?

○ Yes

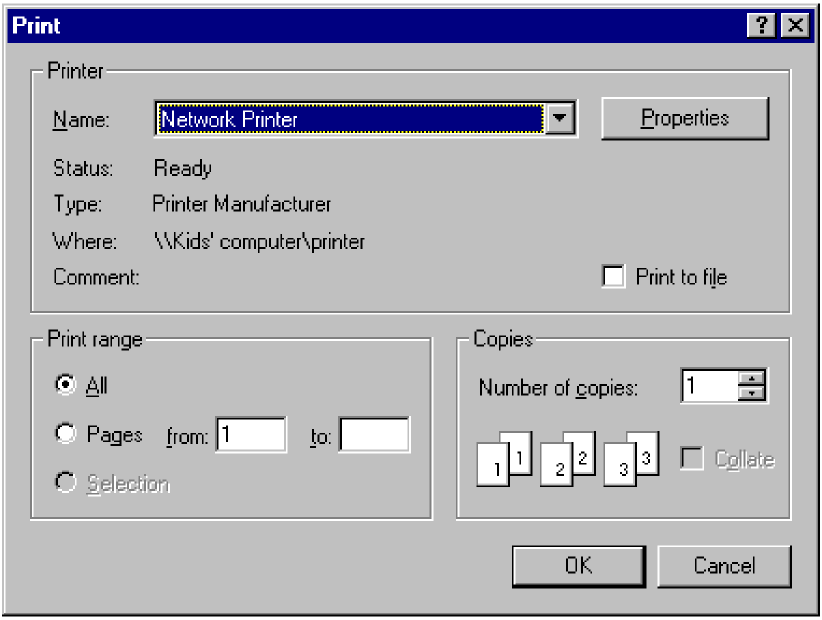
● No

Follow the on-screen instructions to complete the installation of the printer. Also, you should have the printer's installation CD or diskette(s) available during the installation. You may be prompted to insert the CD or diskette(s) if Windows cannot find the appropriate driver files.

5. **Confirm that the Printer Has Been Successfully Installed.** After the printer has been successfully installed, go to the Control Panel and click the Printers icon to confirm that the printer has been added to the list of available printers, as shown in the following example.



Once you have confirmed that the printer is installed, it is ready for use. Simply select the network printer from the drop-down list within each application’s Print screen, as shown below.



Printer

Name: Network Printer

Status: Ready

Type: Printer Manufacturer

Where: \\Kids' computer\printer

Comment:

☐ Print to file

Print range

● All

○ Pages from: 1 to:

○ Selection

Copies

Number of copies: 1

☐ Collate

If you are having difficulty printing to a network printer, refer to Chapter 12 and the Symphony Web site for troubleshooting suggestions. Also, refer to the printer’s documentation to determine if any additional steps are required by the manufacturer in order to share this printer on a network.

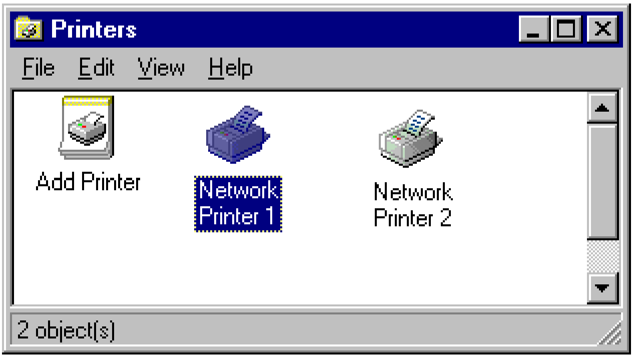
Designating a Network Printer as the Default Printer

If you have multiple printers connected to the network, you may assign each computer a particular network printer to use by default. The default printer will automatically appear as the designated printer within an application's Print screen.

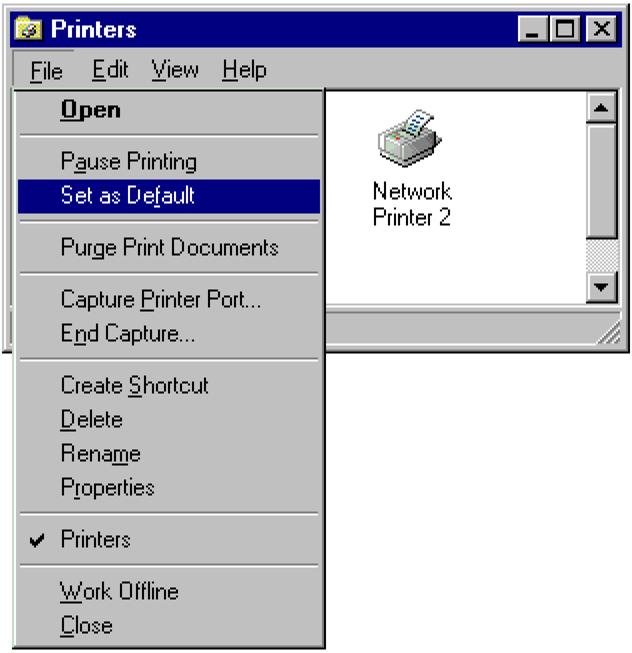
Follow these directions to assign a computer a default printer:

1. Open the Control Panel and double-click the **Printers** icon to display the list of installed printers.

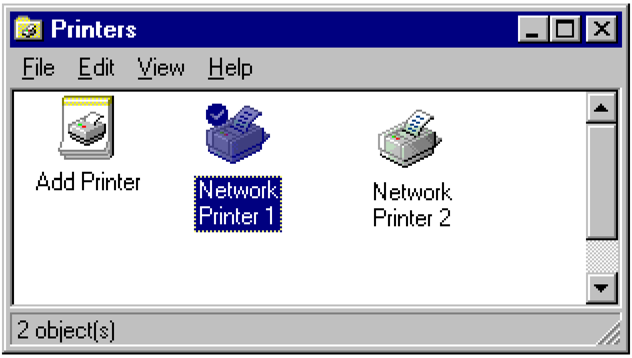
2. Highlight the printer that you want to designate as the default printer, as shown below.



3. Under the **File** menu, choose **Set as Default** from the drop-down list, as shown in the following example.



The network printer that you designated as the default printer will now have a check mark next to its entry, as shown below, to indicate that it is the default printer.



8. Symphony Location Switcher

The installation procedure will automatically configure a Symphony-HRF or Symphony adapter with all of the parameters required to establish network communication. However, under some circumstances, you may want to move a computer from the cordless network to another network. For example, you may want to connect the computer to your office LAN (Local Area Network) that is in a different location and uses a non-Symphony network card, such as a wired Ethernet card or a Proxim RangeLAN2 Card, to provide network access. In this case, the cordless network's settings may conflict with the settings of this other network.

Normally, in order to move a computer from one location to another, you must manually change several network settings each time the computer is relocated. This process can be tedious and error prone. However, the Symphony software eliminates this concern by creating two profiles that contain the settings for each network.

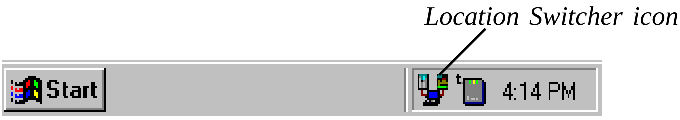
During installation, the Symphony Composer Installation Wizard saves your computer's existing network configuration in a profile called "Original." The Symphony Composer then reconfigures the network settings so that the computer will communicate with the cordless network. These new network settings are saved in a profile called "Symphony." Once the installation is complete, the computer will use the Symphony Profile until you switch back to the Original Profile using the Symphony Location Switcher.

Note:

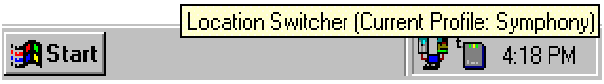
Among the network information saved within a profile is a computer's Internet Proxy Server settings. If you have configured Netscape Navigator with Proxy information, these settings are not saved within a profile. Netscape Navigator uses its own Internet Proxy information that the Symphony Composer Installation Wizard cannot access. If you have configured Netscape Navigator with Proxy Server settings, you must change this information manually from within Netscape Navigator each time the computer is relocated.

After the Symphony Composer Installation Wizard has completed the configuration of a Symphony adapter, the computer may automatically launch the Location Switcher program (depending on the computer's configuration), and the Location Switcher icon may appear in the Windows System Tray, as shown below. If the icon does not appear, the Location

Switcher program and icon can be launched from the Symphony section of the Start Menu's Programs group.

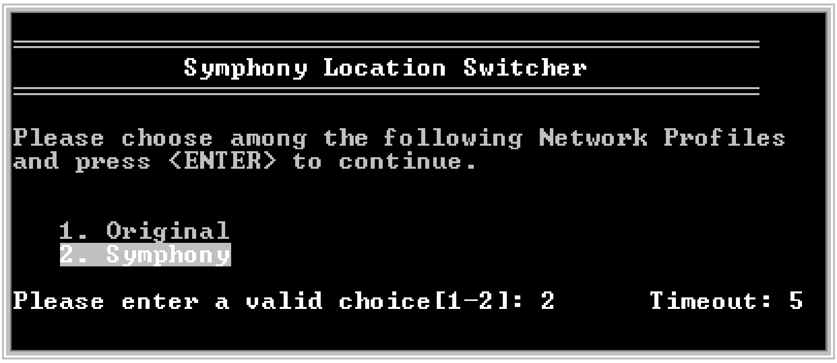

Location Switcher icon

If you move the Windows cursor over the Switcher icon, a dialog box will appear that reports the current profile in use, as shown below.


Location Switcher (Current Profile: Symphony)

Depending on your computer's configuration, this icon may appear in the Windows System Tray each time you restart the computer. You can prevent this icon from appearing in the System Tray by unchecking the box labeled **Always show Switcher icon in taskbar** within the Location Switcher configuration screen. If this icon does not appear automatically, you can enable this feature by checking the box labeled **Always show Switcher icon in taskbar** within the Location Switcher configuration screen.

In addition to the Switcher icon, the Location Switcher program may also create a prompt at boot-up that allows you to select which profile you want to use. The example below is from a Windows 95/98 computer; the Switcher prompts Windows 2000 Professional users to select a profile after the user has logged onto the network.


```
==================================================================
               Symphony Location Switcher
==================================================================

Please choose among the following Network Profiles
and press <ENTER> to continue.


   1. Original
   2. Symphony

Please enter a valid choice[1-2]: 2      Timeout: 5
```

Note:
The Switcher prompt at boot-up feature is not available on computers running Windows ME.

During installation, the Composer wizard will prompt you to decide if you want to use this prompt. If you chose to install this feature, then the DOS prompt will appear during boot-up each time you restart the computer.

Select the profile you want to use and click <**Enter**>. This prompt also includes an automatic timer so if you do not wish to change the profile, it will automatically load your current profile after a brief countdown.

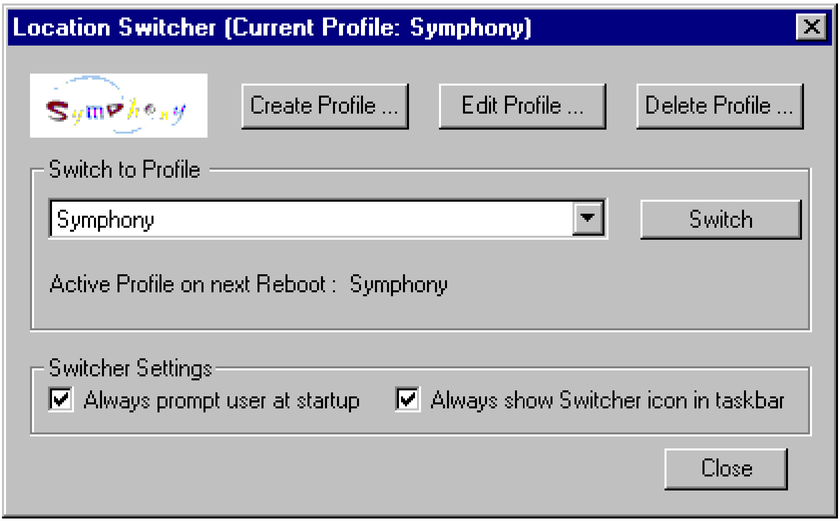
You can disable this feature by unchecking the box labeled **Always prompt user at startup** within the Switcher configuration screen. If this prompt does not appear automatically and you want to utilize this feature, place a check mark next to the box labeled **Always prompt user at startup** within the Switcher configuration screen.

Note:

*The **Always prompt user at startup** option is not available on computers running Windows ME.*

At any time, you may edit an existing profile or create a new one using the Location Switcher configuration screen. Simply double-click the Switcher icon to display the Location Switcher configuration screen, shown below.

Alternatively, you can right-click the Switcher icon and choose **Edit** or select the **Symphony Location Switcher** entry found in the Symphony section of the Start Menu's Programs group to display this screen.


Location Switcher (Current Profile: Symphony)

Switch to Profile

Symphony

Active Profile on next Reboot : Symphony

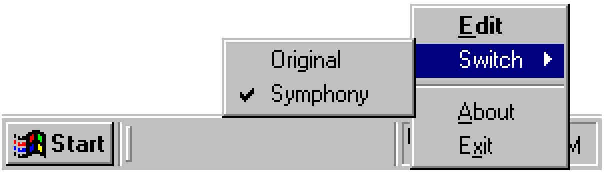
Switcher Settings

☑ Always prompt user at startup ☑ Always show Switcher icon in taskbar

Switching Between Profiles

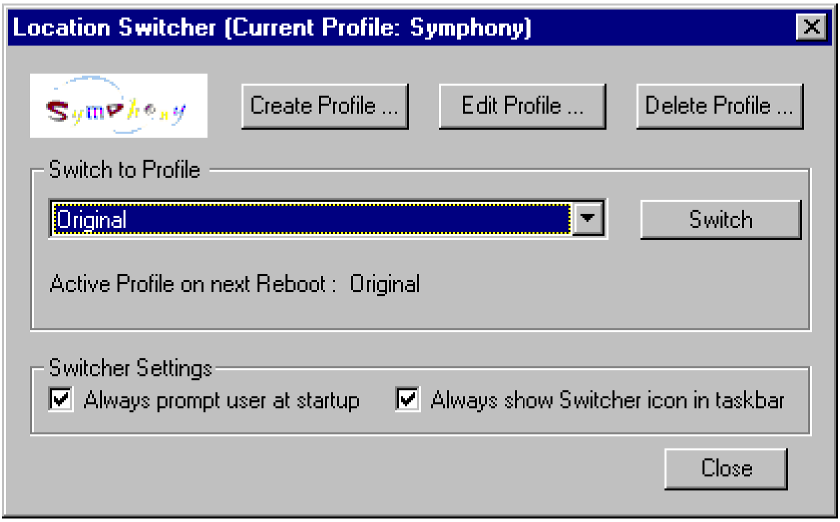
The Location Switcher offers three ways to toggle between profiles:

Method 1: Right-click the Switcher icon in the Windows System Tray and select the **Switch** option from the pop-up menu to choose between profiles, as shown below.



Method 2: Select a profile when prompted during boot-up, as described above.

Method 3: Launch the Switcher configuration screen and select a profile from the **Switch to Profile** dialog box, as shown below.



Switch to Profile: Original

Active Profile on next Reboot : Original

☑ Always prompt user at startup

☑ Always show Switcher icon in taskbar

Click <**Switch**> to change the network profile. Restart the computer when prompted.

If you choose not to restart the computer when prompted, the profile listed in the **Active Profile on next Reboot** field will change to indicate that the new profile will be used following the next restart.

Note:

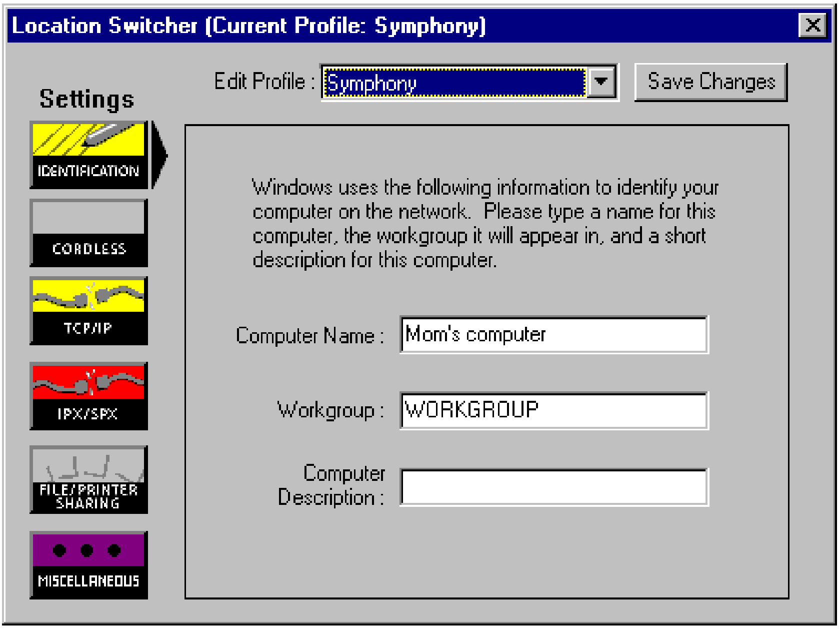
Methods 1 and 3 above require that you restart the computer each time you change to a new profile in order for the new settings to take effect.

Editing a Profile

To edit the network settings for a particular profile, follow these steps:

1. Select the profile from the **Switch to Profile** drop-down menu.

2. Click <**Edit Profile ...**>. This displays the Switcher's Edit Profile screen, as shown below.



Location Switcher (Current Profile: Symphony)

Edit Profile : Symphony

Windows uses the following information to identify your computer on the network. Please type a name for this computer, the workgroup it will appear in, and a short description for this computer.

Computer Name : Mom's computer

Workgroup : WORKGROUP

Computer Description :

3. Select one of the headings on the left-hand side to view and edit a profile's parameters.

3a. The **Identification** option, shown above for a Windows 95/98/ME computer, configures the name, workgroup designation, and description that the computer will use for the selected profile. Windows 2000 Professional users can also configure the computer's Domain or workgroup affiliation within this screen.

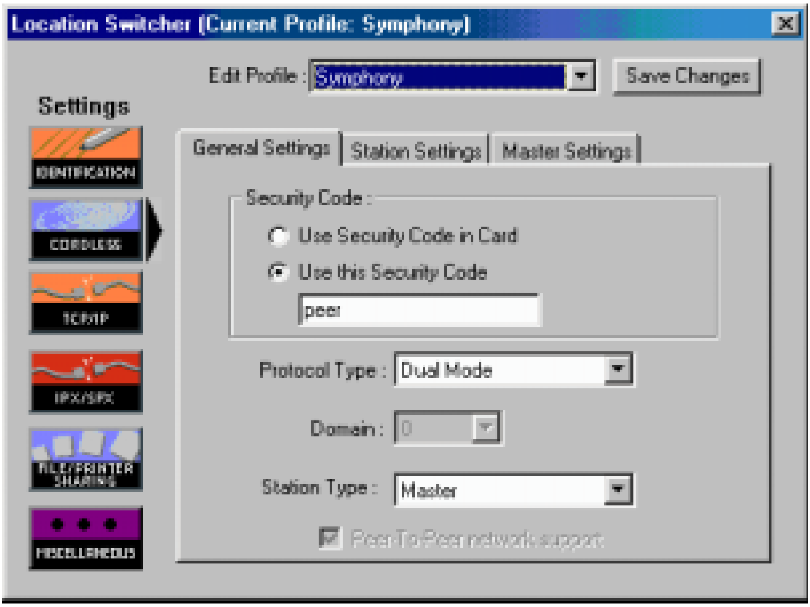
3b. The **Cordless** option, shown below, configures the cordless networking parameters. Select either the **Station Settings** or **Master Settings** tab to view additional advanced settings. For more information on these advanced cordless parameters, including Station Type and Protocol Type, refer to Appendix A.

Note:
The Domain and Roaming parameters are grayed out in the Symphony Profile. Symphony products do not support these RangeLAN2/OpenAir parameters.

In the example below, a Symphony Conductor computer is using the word "peer" as the Security Code and it is configured as a Master device. The user configured this Security Code using the Composer Installation Wizard.

Proxim's RangeLAN2 and Harmony OpenAir Cards use a parameter called "Security ID," which is similar to a Symphony Card's Security Code, except the Security ID is stored on the RangeLAN2/OpenAir Card itself and cannot be read or retrieved, only overwritten.

RangeLAN2/OpenAir users who move a laptop between a RangeLAN2/OpenAir network and a Symphony network should configure the Original Profile to use the Security Code (or Security ID) that resides within the card rather than a configured Security Code to communicate with a RangeLAN2/OpenAir network.



Edit Profile : Symphony

Security Code :

○ Use Security Code in Card

● Use this Security Code

peer

Protocol Type : Dual Mode

Domain : 0

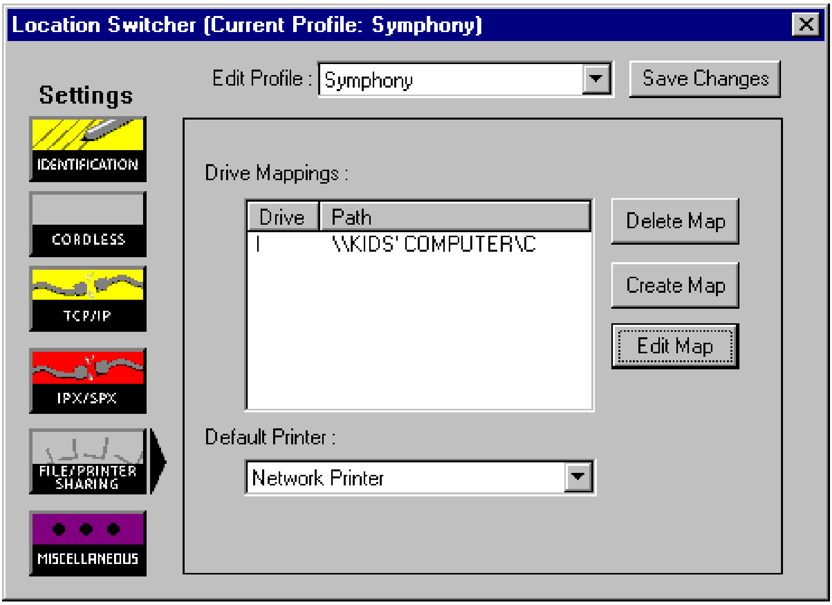
Station Type : Master

☑ Peer-To-Peer network support

3c. The **TCP/IP** option configures the TCP/IP parameters that the computer will use for the selected profile. The TCP/IP parameters include IP Address, Subnet Mask, DNS configuration, Gateways configuration, Proxy Server settings, and WINS configuration. If you are unfamiliar with these settings, Proxim recommends that you leave these parameters at their default value.

3d. The **IPX/SPX** option configures the IPX/SPX parameters that the computer will use for the selected profile. IPX/SPX is a network protocol like TCP/IP. By default, the cordless network does not use this protocol, but it may be used on other networks. If you are unfamiliar with these settings, Proxim recommends that you leave these parameters at their default value or contact your network administrator for assistance.

3e. The **File/Printer Sharing** option configures the drive mappings and default printer that the computer will use when operating in the selected profile, as shown in the following example.



Edit Profile : Symphony

Drive Mappings :

Drive	Path
I	\\KIDS' COMPUTER\C

Default Printer : Network Printer

The File/Printer Sharing screen allows you to create, delete, or edit drive mappings (also known as remote drive shares) used by the computer for the selected profile.

To make a new drive share, click <**Create Map**> and assign a drive letter and network path. Click <**Select**> to browse the network for the location of the drive you want to share.

To delete or edit an existing drive mapping, highlight one of the entries in the Drive Mapping table and click the appropriate button.

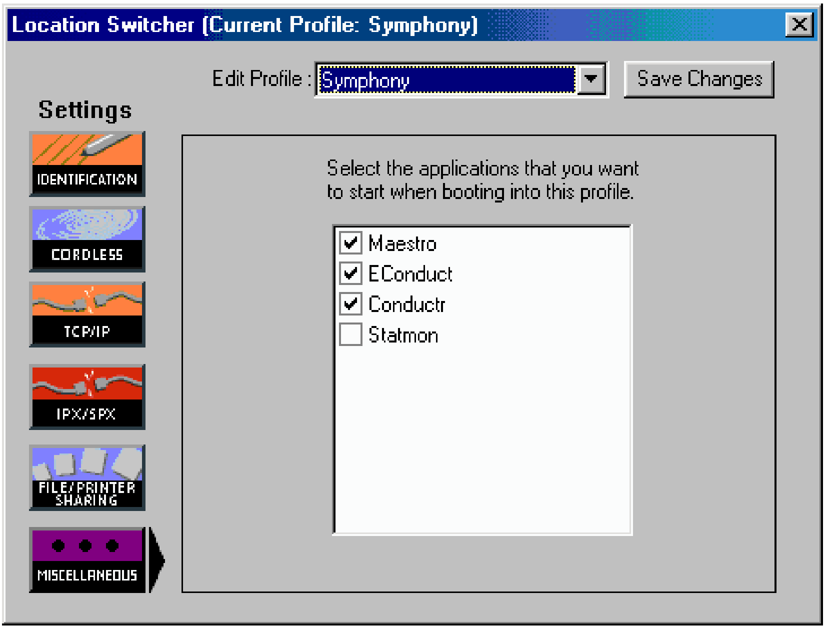
To change a profile's default printer, select another installed printer from the Default Printer drop-down menu.

3f. The **Miscellaneous** option determines which Proxim programs are automatically launched when a computer is restarted using the selected profile. "Maestro" corresponds to the Symphony Maestro Configuration Tool. "Statmon" corresponds to the RangeLAN2 Status Monitor. "EConduct" corresponds to the Symphony Conductor Modem Sharing Software for cordless networks that share a high-speed

Internet connection or communicate with another network. “Conductr” corresponds to the Symphony Conductor Modem Sharing Software for cordless networks that share a dial-up modem.

For the Symphony Profile, you want the Symphony Maestro and Conductor programs to be launched automatically but not the RangeLAN2 Status Monitor, so the **Maestro**, **EConduct**, and **Conductr** entries should have a check mark and the **Statmon** entry should not, as shown below.

Note:
A Windows 2000 Professional computer does not have the EConduct and Conductr entries.


Location Switcher (Current Profile: Symphony)

Edit Profile : Symphony

Select the applications that you want to start when booting into this profile.

☑ Maestro
☑ EConduct
☑ Conductr
☐ Statmon

For a profile that communicates with a RangeLAN2/OpenAir network, you want the RangeLAN2 Status Monitor to be launched automatically but not the Maestro Configuration Tool or Conductor software, so the **Statmon** entry should have a check mark and the **Maestro**, **EConduct**, and **Conductr** entries should not.

For a profile that does not communicate with either a Symphony or RangeLAN2/OpenAir network (such as a profile that uses a wired Ethernet card), then none of these entries should have a check mark; this will prevent these programs from loading automatically when not needed.

4. After you have made changes to a profile's network settings, click the <**Save Changes**> button. To exit the Edit Profile screen without making any changes, click the **X** box in the upper right hand corner of the screen.

5. Restart the computer when prompted for these changes to take effect.

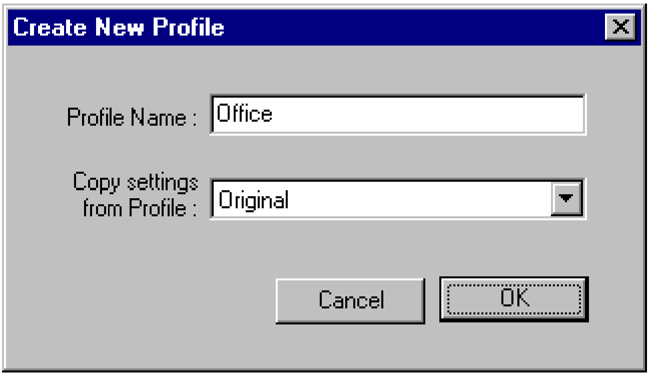
Creating and Deleting Profiles

Within the Location Switcher configuration screen, you may create a new profile or delete an existing one.

To create a new profile, follow these steps:

1. Click <**Create Profile**>. This will make a copy of an existing profile.

2. Assign the duplicate profile a new name, as shown below.



Profile Name : Office

Copy settings from Profile : Original

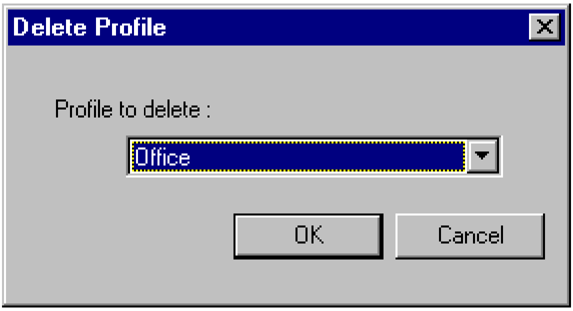
3. Change the network settings of the new profile using the Edit Profile options discussed earlier this chapter.

Note:
There is no limit to the number of profiles that you can create.

To delete a profile, follow these steps:

1. Click <**Delete Profile**>.

2. Select a profile from the drop-down menu, as shown below.



Delete Profile

Profile to delete : Office

3. Click <**OK**> to delete the profile.

Examples of When to Use Profiles

Here are a few examples of how to switch between profiles:

Moving a Laptop Computer From the Home to the Office

Follow these steps when moving a laptop computer from the home to the office:

1. Shut down the computer.

2. Eject the Symphony-HRF PC Card from the PCMCIA slot.

3. Take the computer to the office.

4. Insert your office network card or place the computer in its docking station, if applicable.

5. Turn on the computer.

6. Select the Original Profile (or another profile you have created specifically for the office) at the Switcher prompt at boot-up.

The Network Switcher will restore all of your office LAN's settings during boot-up and the laptop will be ready to communicate with the office LAN without further configuration.

Alternatively, you can change the profile setting by right-clicking the Switcher icon or by clicking the <**Switch**> button in the Switcher configuration screen and restarting the computer when prompted.

Moving a Laptop Computer From the Office to the Home

Follow these steps when moving a laptop computer from the office to the home:

1. Shut down the computer.
2. Remove the office network card from the PCMCIA slot or undock the laptop.
3. Take the computer home.
4. Insert the Symphony-HRF PC Card into the PCMCIA socket.
5. Turn on the computer.
6. Select the Symphony Profile at the Switcher prompt at boot-up.

The Location Switcher will restore all of the Symphony settings during boot-up, and the laptop will be ready to communicate with the cordless network without further configuration.

Alternatively, you can change the profile setting by right-clicking the Switcher icon or by clicking the <**Switch**> button in the Switcher configuration screen and restarting the computer when prompted.

Note:

*Refer to Proxim's web site at **http://www.proxim.com** for information on how to use the Symphony Location Switcher with a RangeLAN2/Harmony OpenAir Card.*

9. Adding a New Product to a Cordless Network

In the future, if you decide to increase the number of computers on the cordless network or decide to add a Symphony-HRF Cordless Gateway to an existing network, you may need to reconfigure the computers on the cordless network. Below are some guidelines for reconfiguring a Symphony Cordless Network.

Note:

There can be only one shared device (modem, Ethernet card, Ethernet Bridge, or Cordless Gateway) on a Symphony Cordless Network.

Adding a New Computer to a Cordless Network

If you are adding a new computer to an existing cordless network with a Symphony-HRF Cordless Gateway, then simply follow the installation instructions in Chapters 3, 4, and 5 to configure this new addition to the cordless network.

Adding a Symphony-HRF Cordless Gateway to a Cordless Network

If you have an existing cordless network to which you want to add the Symphony-HRF Cordless Gateway, follow these steps:

1. **Shut down all computers on the cordless network.**

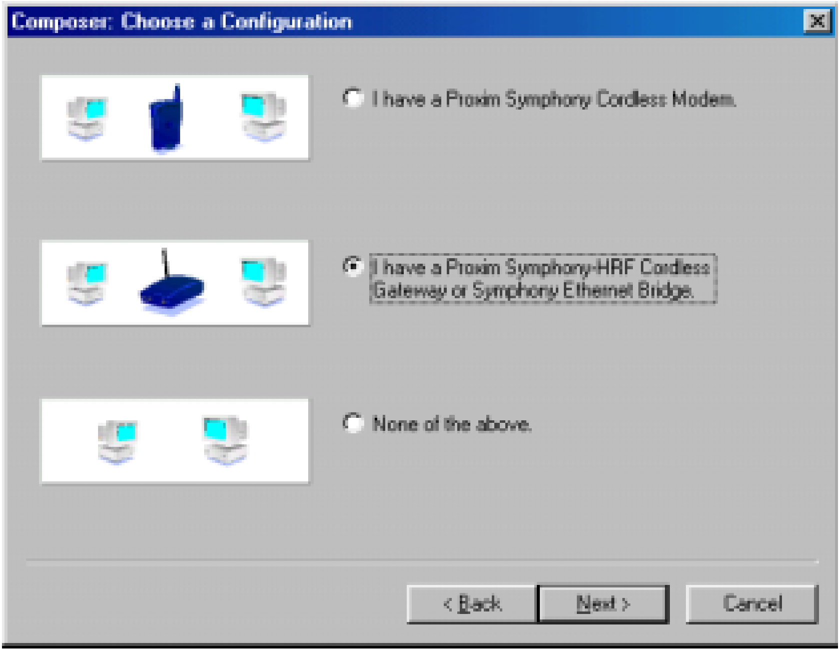
2. Install the Symphony-HRF Cordless Gateway. The installation procedure for the Cordless Gateway is described in Chapter 3 of this manual.

3. Turn on one of the computers on the cordless network.

4. Rerun the Symphony Composer Installation Wizard from the Symphony folder of the Start Menu's Programs group and click <**Next**>.

5. Configure a Security Code for the cordless network and click <**Next**>.

6. If prompted, select the **I have a Proxim Symphony-HRF Cordless Gateway or Symphony Ethernet Bridge** option within the Composer's Choose a Configuration screen, as shown below.



Composer: Choose a Configuration

○ I have a Proxim Symphony Cordless Modem.

● I have a Proxim Symphony-HRF Cordless Gateway or Symphony Ethernet Bridge.

○ None of the above.

7. Click <**Next**> and follow the on-screen instructions to configure the Symphony-HRF or Symphony adapter to communicate with the Cordless Gateway. Refer to Chapter 5 for additional information on the Composer Installation Wizard. Complete the configuration of the Symphony-HRF or Symphony adapter and proceed to Step #8.

8. Repeat Steps #3 through #7, above, for each computer on the cordless network.

10. Upgrading Symphony Software

This chapter describes how to upgrade the Symphony software used by the Cordless Gateway and Symphony adapters if a new version becomes available.

Upgrading the Symphony-HRF Cordless Gateway's Firmware

There are two methods to upgrade the Symphony-HRF Cordless Gateway's firmware: "Upgrade from Symphony Web Site" and "Upgrade from Disk."

Select one of these methods and follow the directions below.

Method 1: Upgrade from the Symphony Web Site

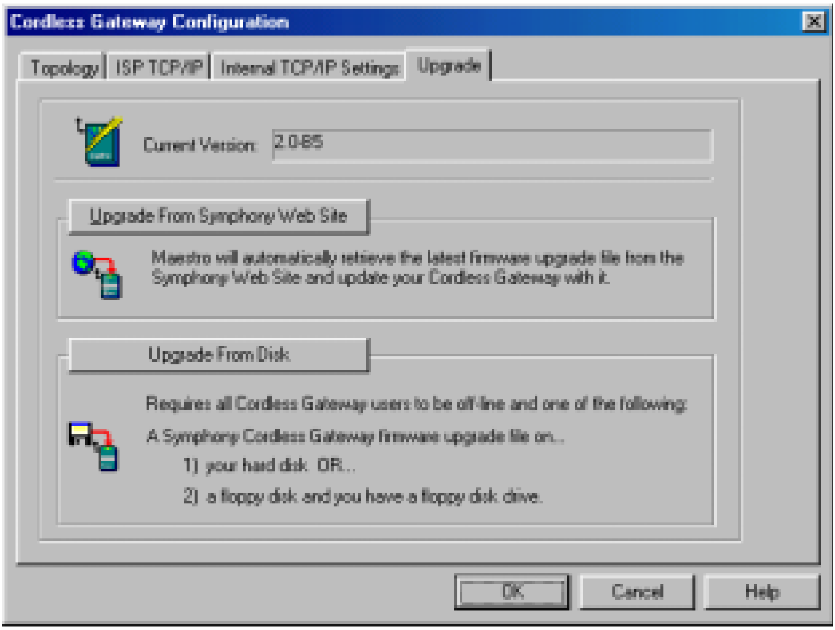
1. Confirm that no cordless computer is using the Symphony-HRF Cordless Gateway to access the Internet or communicate with an Ethernet network while attempting an upgrade.

2. Confirm that the Cordless Gateway has a connection to the Internet (in other words, the Cordless Gateway must be attached to a hub or to a device that provides Internet connectivity for Ethernet nodes).

3. Open the Symphony Maestro Configuration Tool on one of the cordless computers.

4. Click the <**Configure**> button under the Symphony-HRF Cordless Gateway Network heading.

5. In the Cordless Gateway Configuration screen, click the **Upgrade** tab, as shown in the following example.



Current Version: 2.0.85

Maestro will automatically retrieve the latest firmware upgrade file from the Symphony Web Site and update your Cordless Gateway with it.

Requires all Cordless Gateway users to be off-line and one of the following:

A Symphony Cordless Gateway firmware upgrade file on...

1) your hard disk OR...

2) a floppy disk and you have a floppy disk drive.

6. Check the current version of the firmware. If the Symphony-HRF Cordless Gateway already has the latest version installed, there is no need to continue with this upgrade process. Otherwise, proceed to Step #7.

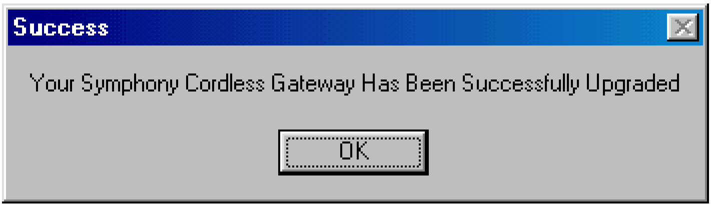
7. Click the button labeled **Upgrade from Symphony Web Site**.

8. Follow the on-screen instructions to complete the upgrade process.

Note:
The Cordless Gateway's Power Indicator LED will blink during the upgrade process.

The Cordless Gateway will be automatically rebooted after it has completed the download of the new firmware.

9. Click <**OK**> when notified that the upgrade process is complete, as shown below.



Your Symphony Cordless Gateway Has Been Successfully Upgraded

10. Click <**OK**> to close the Cordless Gateway Configuration screen.

11. Click <**Configure**> under the Symphony-HRF Cordless Gateway Network heading of the Maestro Configuration Tool..

12. Click the **Upgrade** tab again to view the current firmware version in use.

13. Confirm that the update was successful. If an update occurred, then the version number should have increased from what was reported in Step #6.

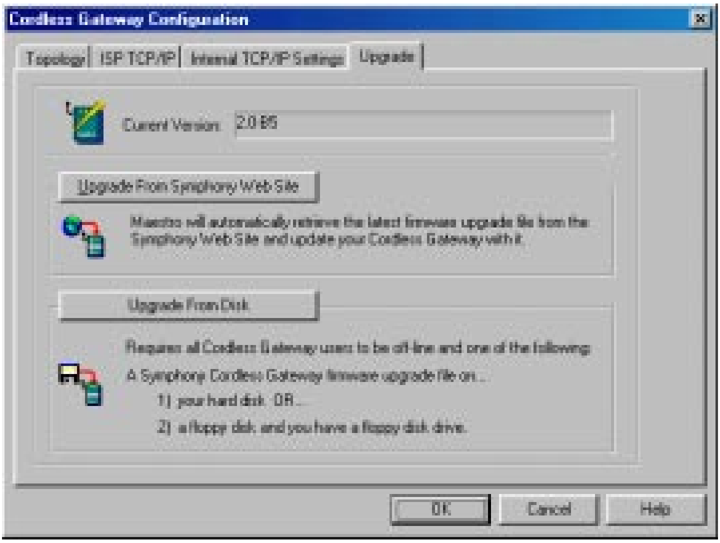
Method 2: Upgrade from Disk

1. Confirm that no cordless computer is using the Symphony-HRF Cordless Gateway to access the Internet or communicate with an Ethernet network while attempting an upgrade.

2. Open the Symphony Maestro Configuration Tool on one of the cordless computers.

3. Click the <**Configure**> button under the Symphony-HRF Cordless Gateway Network heading.

4. Click the **Upgrade** tab in the Cordless Gateway Configuration screen, as shown in the following example.



Current Version: 2.0 B5

Maestro will automatically retrieve the latest firmware upgrade file from the Symphony Web Site and update your Cordless Gateway with it.

Requires all Cordless Gateway users to be off-line and one of the following:

A Symphony Cordless Gateway firmware upgrade file on...

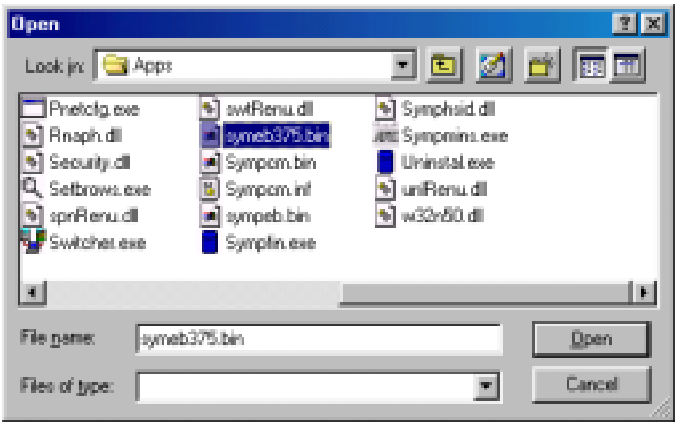
1) your hard disk OR...

2) a floppy disk and you have a floppy disk drive.

5. Check the current version of the firmware. If the Symphony-HRF Cordless Gateway already has the latest version installed, there is no need to continue with this upgrade process. Otherwise, proceed to Step #6.

6. Click the button labeled **Upgrade from Disk**.

7. When prompted, browse the location of the file named *SYMEB375.BIN*, as shown below.



Look in: Apps

File name: symeb375.bin

Files of type:

Note:

This file is included on the Symphony Installation CD and on the Symphony executable available for download from the Symphony Support web site. Typically, SYMEB375.BIN *can be found in the CD's or executable's* SYMPHONY\APPS\ *directory.*

8. Click <**Open**> to begin the upgrade process.

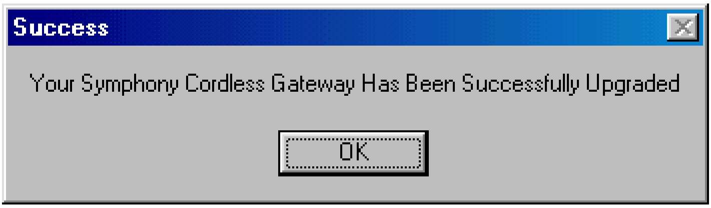
Note:

The Cordless Gateway's Power Indicator LED will blink during the upgrade process.

9. Follow the on-screen instructions to complete the upgrade process.

The Cordless Gateway will be automatically rebooted after it has completed the download of the new firmware.

10. Click <**OK**> when notified that the upgrade process is complete, as shown below.



Success

Your Symphony Cordless Gateway Has Been Successfully Upgraded

11. Click <**OK**> to close the Cordless Gateway Configuration screen.

12. Click <**Configure**> under the Symphony-HRF Cordless Gateway Network heading of the Maestro Configuration Tool.

13. Click the **Upgrade** tab again to view the current firmware version in use.

14. Confirm that the update was successful. If an update occurred, then the version number should have increased from what was reported in Step #5.

Upgrading a Symphony Adapter’s Software

The Symphony Installation program automatically detects if an earlier version of the Symphony software is installed on the computer. Follow the steps below to upgrade the Symphony software for a Symphony-HRF or Symphony adapter without having to uninstall the previous version first.

1. Right-click the Symphony icon, located in the Windows System Tray.

2. Select the **About** option from the drop-down menu to view the About Symphony Maestro Configuration Utility screen.

3. Write down the version of Symphony software currently installed on the computer.

4. Click <**OK**> to return to the Windows desktop.

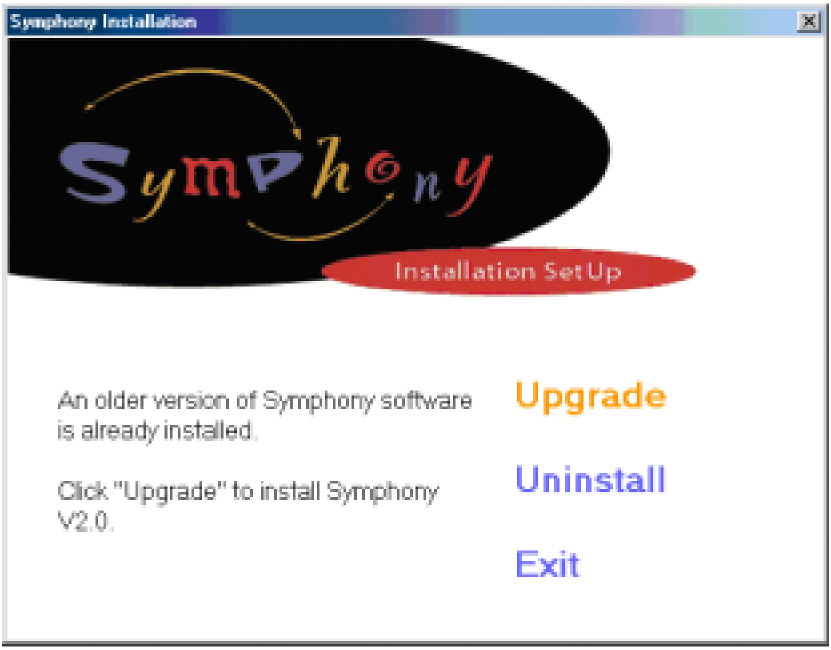
5. Insert the Symphony Installation CD-ROM into the CD-ROM drive.

6. Double-click the **My Computer** icon.

7. Double-click the icon that corresponds to the CD-ROM drive, typically this is drive D:.

8. Double-click *SETUP.EXE* to launch the Symphony Installation program.

9. Click <**Upgrade**> to begin the upgrade process, as shown below.



An older version of Symphony software is already installed.

Click "Upgrade" to install Symphony V2.0.

10. Follow the on-screen instructions.

11. Restart the computer when prompted.

12. After the computer has restarted, proceed with the Symphony Composer Installation Wizard, described in Chapter 5.

13. Restart the computer if prompted.

14. After the upgrade process is completed, right-click the Symphony icon, located in the Windows System Tray.

15. Select the **About** option from the drop-down menu to view the About Symphony Maestro Configuration Utility screen.

16. Compare the new software revision number with the information you recorded in Step #3 above to confirm that the upgrade was successful.

11. Uninstalling Symphony Software

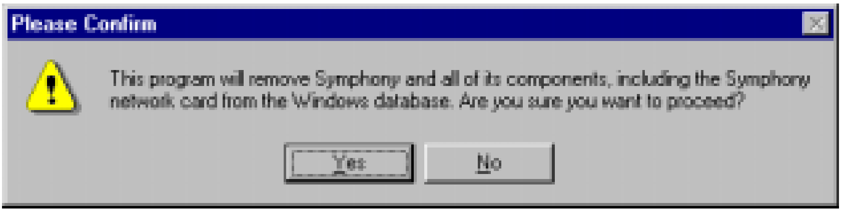
Proxim provides an uninstall tool to remove a Symphony-HRF adapter and the Symphony software from a desktop or laptop computer. The Symphony installation procedure copies the file *UNINSTAL.EXE* to the computer's hard drive and places a Windows shortcut in the Symphony group within the Programs section of the Start Menu.

Follow these steps to uninstall the Symphony software:

1a. Go to the Start Menu and choose **Uninstall** from the Programs group's Symphony folder.

1b. Alternatively, go to the Add/Remove Programs icon in the Control Panel and remove the **Symphony Cordless Network** entry.

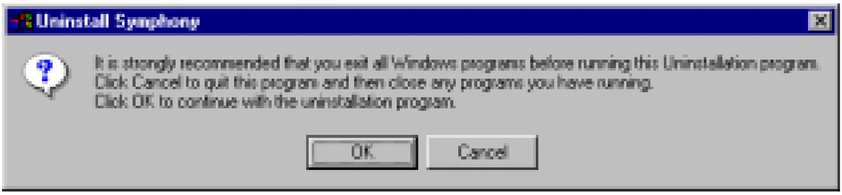
2. When prompted, click <**OK**> to confirm that you want to uninstall the Symphony software, as shown below.



Please Confirm

This program will remove Symphony and all of its components, including the Symphony network card from the Windows database. Are you sure you want to proceed?

3. When prompted by the message shown below, close all Windows programs and click <**OK**> to continue.

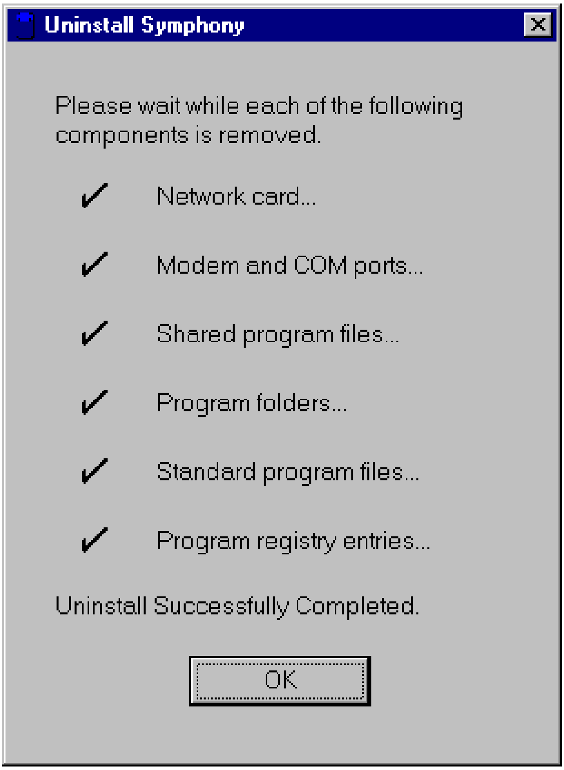


Uninstall Symphony

It is strongly recommended that you exit all Windows programs before running this Uninstallation program.
Click Cancel to quit this program and then close any programs you have running.
Click OK to continue with the uninstallation program.

4. The Uninstall program will remove the Symphony components from your computer; this may take up to a minute.

5. Click <**OK**> when the process is complete, as shown below.



Please wait while each of the following components is removed.

✓ Network card...

✓ Modem and COM ports...

✓ Shared program files...

✓ Program folders...

✓ Standard program files...

✓ Program registry entries...

Uninstall Successfully Completed.

6. When prompted, shut down the computer and remove the Symphony-HRF adapter from the computer.

Note:
The Uninstall program will reconfigure the computer with the network settings stored in the Original Profile, if any exist. For more information on location profiles, refer to Chapter 8.

If you decide to reinstall the Symphony-HRF adapter at a later date, follow the installation instructions in Chapters 3, 4, and 5.

To uninstall the Symphony-HRF Cordless Gateway, unplug the power adapter from the wall and disconnect the Ethernet cable.

12. Troubleshooting

The Symphony Cordless Networking Suite of products is designed to be very easy to operate. If you do experience difficulties, however, use the information in this chapter and on Proxim's Symphony Web site to help diagnose and solve your problems.

If you cannot resolve a problem, contact Symphony Technical Support, as described in Appendix B, "How to Reach Technical Support."

Note:
Refer to Chapters 4 and 12 of the manual that came with the Symphony-HRF or Symphony adapter for assistance with problems that arise during software installation.

Interoperability Between Symphony-HRF and Symphony Products

This section provides information on the interoperability between Symphony-HRF products and other cordless products available in the marketplace.

Proxim's Symphony products use two cordless protocols to communicate: OpenAir and HomeRF.

Proxim's original line of Symphony Cordless Networking products, introduced in 1998, uses a subset of the OpenAir protocol to communicate. (Proxim's RangeLAN2 line of corporate products uses the OpenAir protocol.)

In 1999, the HomeRF Working Group ratified version 1.1 of the HomeRF standard.

Proxim's Symphony-HRF products can communicate using HomeRF or OpenAir, but the products cannot use both protocols simultaneously. When a Symphony-HRF device receives a radio signal from an OpenAir network that has the same Security Code, it adopts that protocol. Otherwise, the Symphony-HRF device defaults to the HomeRF protocol. This allows the Symphony-HRF products to interoperate with either OpenAir-based Symphony products or with HomeRF-compliant devices on a cordless network.

However, OpenAir-based Symphony products and HomeRF-compliant devices cannot communicate with each other.

The interoperability matrix shown below lists the available cordless products and the degree of interoperability between them:

Interoperability Matrix	**Symphony (OpenAir)**	**Symphony-HRF (OpenAir & HomeRF)**	**Symphony-HRF for Compaq (HomeRF)**	**Intel HomeRF Adapters (HomeRF)**	**RangeLAN2 (OpenAir)**
Symphony (OpenAir)	Interoperable	Interoperable using OpenAir	Not Interoperable	Not Interoperable	Limted Interoperability*
Symphony-HRF (OpenAir & HomeRF)	Interoperable using OpenAir	Interoperable	Interoperable using HomeRF^	Interoperable using HomeRF^	Limited Interoperability using OpenAir*
Symphony-HRF for Compaq (HomeRF)	Not Interoperable	Interoperable using HomeRF^	Interoperable	Interoperable^	Not Interoperable
Intel HomeRF Adapters (HomeRF)	Not Interoperable	Interoperable using HomeRF^	Interoperable^	Interoperable	Not Interoperable
RangeLAN2 (OpenAir)	Limited Interoperability*	Limited Interoperablity using OpenAir*	Not Interoperable	Not Interoperable	Interoperable

* RangeLAN2 Cards can communicate with an OpenAir Symphony-HRF or Symphony network using Symphony software; a Symphony adapter cannot communicate with a RangeLAN2 network.

^ You must select one manufacturer's networking software to use with all adapters for cordless networks that contain HomeRF-certified products from multiple manufacturers.

Note:

Each computer on a HomeRF-compliant cordless network must use the same software package in order to allow full interoperability between the products.

For more information on HomeRF, refer to the HomeRF Web site at **http://www.homerf.org/**.

Application Hints

This section provides information about the range of Symphony-HRF products, how to reduce interference with other devices, and information on how to use the cordless network with common applications and peripheral devices.

Range of Symphony-HRF Products

Two Symphony-HRF products can communicate over a distance of up to 150 feet. Range is highly dependent upon the particular environment in which the products are used. Obstacles, such as walls and ceilings, weaken the radio signals. Metal objects, such as screen doors, windows screens, and filing cabinets, also have an adverse effect on range. You should try to avoid placing a sheet of metal (like a filing cabinet) between two Symphony products.

Reducing Interference

The Symphony Cordless Networking Suite uses frequency hopping spread spectrum technology in the 2.4-GHz band to communicate. This is the same frequency band used by microwave ovens and 2.4-GHz phones. Frequency hopping technology is designed to minimize interference so while you may notice a reduction in performance, your devices will not cease to function. Proxim recommends against installing the base station of the 2.4-GHz phone between two Symphony-HRF products.

Hint:

If you suspect a 2.4-GHz telephone is severely degrading the performance of the cordless network, temporarily disconnect power from the phone's base station to determine if this addresses the performance concern.

Home Network Security

Frequency hopping technology is inherently secure. Frequency hopping signals are difficult to detect and decode because they hop several times a second from frequency to frequency in a pseudorandom sequence.

Also, the Security Code adds an additional degree of protection because even if a network infiltrator is using another Symphony-HRF or Symphony adapter within range of your network, the infiltrator must know your Security Code in order to communicate with your network.

Therefore, the Symphony radio signals are secure against unauthorized access by eavesdroppers.

In addition, Symphony's Network Address Translation (NAT) software acts as an Internet firewall to protect against authorized access from other users on the Internet.

However, Proxim recommends that you establish passwords for each drive that you share on the local area network, particularly if you are using the Cordless Gateway in Transparent Bridging mode only. Depending on the type of Internet connection you have, others may be able to access your computer's files from over the Internet. Finally, users who store personal information, such as bank records, on their computers may also want to consider installing a third-party security program to provide additional protection.

Accessing E-Mail

Each computer on the cordless network can send and receive e-mail exactly as if you were directly connected to the Internet. Each computer that accesses e-mail must have e-mail software installed and configured.

Typically, when you access your e-mail account, messages are downloaded from your ISP's mail server and stored on that computer's hard drive. Later, you can go back to that same computer to review your messages. However, if you access your e-mail account from a different computer, you will not be able to access the messages that were downloaded to the hard drive of the other computer.

It is recommended that every time you access a unique e-mail account, you do so from the same computer. This way, you will always have access to all messages for that e-mail address. If your ISP allows you to store your e-mail on its mail server or you use a Web-based e-mail service, you may be able to access all of your messages from any computer on your home network. Also, if you want multiple e-mail addresses for the same Internet account, contact your ISP to determine if it supports this option.

Playing Games Over the Home Network

You may play multiplayer games over your home network as long as the game supports operation over a LAN (local area network). Refer to the game's user guide for more information.

Sharing Software Applications

Most software designed for home use does not support operation over a network. This means that only a computer which has the program installed on its local hard drive can use the program. Consult the application's user guide to determine if it supports operation over a network.

Even if you can share a program over the network, keep in mind that generally when you purchase software applications, you are authorized by the software manufacturer to install and run a single copy of that application on a single computer. Some software applications are designed to prevent simultaneous use. Please refer to the software license agreement for restrictions on network use or contact the manufacturer for information on a network-enabled version of the software.

Sharing a Scanner with the Home Network

A cordless network can only share a scanner that supports operation over a network. Refer to the scanner's documentation or contact the scanner's manufacturer to determine if your scanner is network-enabled.

Frequently Asked Technical Support Questions

Operational Issues

Problem/Symptom Question	Possible Solution/Answer	Chapter in User's Manual
I can share files and printers between the computers on the cordless network, but I can't access the Internet through my high-speed Internet connection.	Confirm that you have configured the Cordless Gateway with the appropriate topology setting. Also, if you are using NAT, confirm that the Cordless Gateway has been asssigned an IP address from the ISP, either manually, using DHCP, or using PPPOE. Click the <**Status**> button under the Symphony-HRF Cordless Gateway heading within the Maestro Configuration Tool to confirm that the Cordless Gateway has an IP address. Refer to Chapter 7 for details.	7
All of the computers on the cordless network and the computers on the Ethernet network have access to the Internet. However, I cannot share resources between cordless and Ethernet computers.	If the Cordless Gateway is configured to perform NAT, then the Symphony-HRF or Symphony Adapters will have an IP address in the 10.0.0.0 network, by default. In order to have access to the Internet, the Ethernet cards probably use a different IP addressing scheme. In this case, configure the Cordless Gateway to operate in Transparent Bridging mode only and configure the TCP/IP parameters on the cordless computers just as if they were on the Ethernet network. Alternatively, leave the Cordless Gateway configured for NAT mode and try installing another networking protocol, like NetBEUI, to allow the cordless and Ethernet computers to share resources.	7

Problem/Symptom Question	Possible Solution/Answer	Chapter in User's Manual
I can't print to the network printer.	1. Confirm that you have successfully installed the network printer on the computer from which you want to print. 2. Confirm that the printer and the computer it is attached to are powered on. 3. Confirm that the computer with the printer and the computer from which you want to print are both successfully logged into the network. 4. Test the strength of the link between the two computers from within the Maestro tool. The computers may be out of range of one another.	7
I get an error message while trying to copy driver files during the installation of my printer.	Certain printer manufacturers require that network computers run a proprietary software program to use the printer over the network. Consult your printer documentation for more information on how to share the printer on the network.	7
I can't find another computer on the cordless network.	1. Confirm that the other computer is listed in the Symphony Network Map in the Maestro tool. 2. Test the strength of the link between the two computers from within the Maestro tool. The computers may be too far apart. 3. Confirm that you successfully logged onto the network. If you are unsure, go to Shut Down in the Start Menu and choose **Close all programs and log on as a different user** to bring up the Network Logon prompt. 4. Use Microsoft's Find Computer utility to locate the computer on the network.	6, 7

Problem/Symptom Question	Possible Solution/Answer	Chapter in User's Manual
Which 10BaseT port should I use to connect the Cordless Gateway to a cable modem?	In general, a 10BaseT port on an ISDN router, a cable modem, or DSL modem will have a pinout similar to a cabling hub. In this case, connect an Ethernet cable to the Cordless Gateway's 10Base-T Port I. However, if the 10Base-T Link LED does not illuminate on the Cordless Gateway and on the attached device, try connecting the cable to 10Base-T Port II.	3
The Link LED on the back of the Cordless Gateway is not illuminated.	Try connecting the cable to both ports on the Cordless Gateway in succession. If the Link LED does not light up when the cable is connected to either port, try another Ethernet cable; your cable may be damaged.	3
The Cordless Gateway's Power Indicator LED is blinking on and off.	The Cordless Gateway is in the middle of upgrading its firmware; be patient while it completes the upgrade process.	3, 10
The Cordless Gateway Networking icon in the Windows System Tray is red. Why?	The Cordless Gateway icon will turn red when the computer cannot communicate with the Cordless Gateway or when the Cordless Gateway is in Upgrade mode and waiting to receive a new version of the firmware. Try these steps: 1. Confirm that the Cordless Gateway is powered on. 2. You may be out of range of the Cordless Gateway. Try moving the computer closer to it. 3. Confirm that the Security Code has not been changed for the Symphony-HRF or Symphony Adapter within the Maestro Configuration Tool.	6, 10

General Questions

Problem/Symptom Question	Possible Solution/Answer	Chapter in User's Manual
Can I use two Cordless Gateways on the same cordless network?	No. You can only use one Cordless Gateway on any cordless network.	
Can I use the Cordless Gateway on the same cordless network as a Symphony Ethernet Bridge or Symphony Cordless Modem?	No. Each cordless network can support either one Symphony-HRF Cordless Gateway, one Symphony Ethernet Bridge, one Symphony Cordless Modem, or one computer acting as a Symphony Conductor. None of these devices can coexist on the same cordless network.	
Can I connect the Symphony-HRF Cordless Gateway to my office network so that my laptop can access the network?	The Symphony-HRF Cordless Gateway can only be connected to small hubs with no more than 8 devices attached. If your office has more than 8 Ethernet devices networked together, then you cannot use the Cordless Gateway to provide network connectivity to a cordless laptop.	2
How can I use a laptop computer on both my office network and home network?	Switch between profiles using the Symphony Location Switcher. See Chapter 8 for details.	8
I have reviewed all of the troubleshooting suggestions but I still can not solve my problem.	Review the support documentation available on the Symphony Web site at **http://www.proxim.com/**. If you are still unable to solve the problem, call Symphony Technical Support at 800-411-8106 for technical assistance with the Symphony product line.	

A. Advanced Symphony Parameters

Several advanced Symphony parameters are visible within the Symphony Location Switcher configuration screen and the Advanced tab of the Symphony Adapter's Properties screen in the Windows's Network icon.

Proxim recommends that you do not alter these advanced parameters from their default values unless told to do so by a Symphony Technical Support representative.

Station Type

The Symphony Cordless Networking Suite uses a radio technology known as frequency hopping spread spectrum. This means that the frequency at which the devices communicate changes several times a second within a specific radio band.

In order for all devices to hop to the appropriate frequency at the same time, one radio must coordinate these movements. For OpenAir networks, this device is known as the Master. A device which follow a Master's pattern is known as a Station. Two Masters cannot communicate with each other. Two Stations can communicate with each other if they have the same Master.

At any point in time, each Symphony device is either a Master or a Station. In addition, there is a third Station Type option, Alternate Master, which allows a device to become a Master if one is not present and otherwise it acts as a Station. Multiple Alternate Masters will decide among themselves which device will act as the Master.

A Symphony Cordless Modem, a computer running the Symphony Conductor Modem Sharing Software, and a Symphony Cordless Ethernet Bridge are always configured as Masters. Other Symphony devices act as Alternate Masters by default, but this may be changed by configuring the Station Type parameter. Do not change this parameter unless directed to do so by Technical Support.

This parameter is valid only when a Symphony-HRF adapter is operating in OpenAir mode.

Master Name

The Master Name is a string of characters which identifies a Master device. This parameter is only valid for an active Master. Do not change this parameter unless directed to do so by Technical Support.

This parameter is valid only when a Symphony-HRF adapter is operating in OpenAir mode.

Channel and Subchannel

The Channel represents the frequency hopping pattern used by the Master device. The Subchannel provides a logical subdivision between Channels. These parameters are only valid for an active Master device. Do not change these parameters unless directed to do so by Technical Support.

This parameter is valid only when a Symphony-HRF adapter is operating in OpenAir mode.

MAC Optimize

This parameter accounts for the number of radios that are communicating on the Symphony network. By default, this parameter is set to Light in order to maximize throughput and reduce overhead. However, if you have 9 to 10 Symphony devices on the same Symphony network, you may see improved communication by changing this parameter to Normal. Proxim recommends that you do not change this parameter unless you are directed to do so by Technical Support.

This parameter is valid only when a Symphony-HRF adapter is operating in OpenAir mode.

Inactivity Timeout

This parameter is only visible for Proxim PC Cards. It controls when a PC Card, acting as a Station, will enter a low-power doze mode in order to conserve battery life. The Inactivity Minutes and Inactivity Seconds parameters are added together to arrive at the Inactivity Timeout period. After the specified period of inactivity has elapsed, the PC Card will enter the doze mode and draw a minimal amount of power from the computer. The card will awaken from doze mode to receive a message directed to it or to send a message to another Symphony device.

Setting both Inactivity Seconds and Inactivity Minutes to 0 will prohibit the PC Card from entering the doze mode. Note that disabling the doze mode will decrease the computer's battery life. If you intend to disable the doze mode, you may want to use the computer with AC power.

This parameter is valid only when a Symphony-HRF PC Card is operating in OpenAir mode.

Note:

The Symphony-HRF PC Card in OpenAir mode will not emerge from doze mode in response to a broadcast packet. In general, this is not a problem because communication will typically be initiated from the mobile computer. However, if you need the device to respond to broadcast packets all of the time, you may disable the Inactivity Timeout parameter, as described above. Alternatively, advanced users may configure a static entry for the Symphony-HRF PC Card in other computers' ARP table.

Protocol Type

This parameter configures the protocol that a Symphony-HRF adapter will use to communicate with other devices. The options are Dual Mode, HomeRF-only, and OpenAir-only.

When set to Dual Mode, the default setting, the Symphony-HRF adapter will adopt the OpenAir protocol when it receives a radio signal from an OpenAir network that is using the same Security Code as the adapter. Otherwise, the Symphony-HRF adapter defaults to the HomeRF protocol.

When set to HomeRF-only, the Symphony-HRF adapter will only communicate using the HomeRF protocol. When configured to this setting, a Symphony-HRF adapter will be unable to communicate with OpenAir Symphony devices.

When set to OpenAir-only, the Symphony-HRF adapter will only communicate using the OpenAir protocol. When configured to this setting, a Symphony-HRF adapter will be unable to communicate with HomeRF-certified devices from other manufacturers.

See Chapters 2 and 12 for more information on OpenAir and HomeRF.

Proxim recommends that you do not change this parameter unless you are directed to do so by a Technical Support representative.

B. How to Reach Technical Support

If you are having a problem using any of the Symphony Cordless Networking products and cannot resolve it with the information in Chapter 12 or with information from the Symphony Web site, gather the following information and contact Symphony Technical Support:

- ☐ What network configuration is your cordless network using?
- ☐ What were you doing when the error occurred?
- ☐ What error message did you see?
- ☐ Can you reproduce the problem?
- ☐ What version of the software are you using with each of your Symphony products?

You can reach Symphony Technical Support by voice, fax, e-mail, or mail:

Tel:	800-411-8106 or 408-731-2780
Fax:	408-731-3676
Web:	**http://www.proxim.com/symphony/**
E-Mail:	symphony_support@proxim.com

Proxim, Inc.
Attn: Symphony Technical Support
510 DeGuigne Drive
Sunnyvale, CA 94085

C. U.S. Specifications

The following technical specification for the Symphony-HRF Cordless Gateway is for reference purposes only. Actual product performance and compliance with local telecommunications regulations may vary from country to country. Proxim, Inc. will only ship products that are type approved in the destination country.

Network Interface	Ethernet 10Base-T (Twisted-Pair)
Data Rate	1.6 Mbps — Radio 10 Mbps — Ethernet
Frequency Band	2.4-2.483 GHz (in the U.S.) (spread spectrum frequency hopping)
Output Power	100 mW
Range	A radius of up to 150 feet
Operating Temperature	0°C to +40°C
Power Supply	5 V DC, 1 A minimum

D. Regulatory Information

FCC WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ☐ Reorient or relocate the receiving antenna.
- ☐ Increase the separation between the equipment and the receiver.
- ☐ Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- ☐ Consult the dealer or an experienced radio/TV technician for help.

Warning!

It is the responsibility of the users of the Symphony-HRF Cordless Gateway to guarantee that the antenna is operated at least 20 centimeters from any person. This is necessary to insure that the product is operated in accordance with the RF Guidelines for Human Exposure which have been adopted by the Federal Communications Commission.

Index

10Base-T
  Cable 9, 13, 15, 16, 17, 19, 20, 21
  Specifications 139
10Base-T Connector plug 21, 24
10Base-T Port I 20, 21, 23, 133
10Base-T Port II 17, 21, 23, 133
2.4-GHz cordless telephones 128
3.3-volt PC Cards 8, 25

A

About menu 49, 58, 122, 123. *See also* Symphony icon
Access to shared drives. *See* Limiting Access to a Shared Drive
Accessories 9
Add New Hardware Wizard 30
Add Printer Wizard 99. *See also* File and Print Sharing: Print Sharing
Add/Remove Program 124
Adding a new computer 115
Adding a Symphony-HRF Cordless Gateway 115
ADSL. *See* DSL modem
Alternate Master 135. *See* Station Type
ARP 137
ATMF-25 13

C

CAB files. *See* Windows: Cabinet (CAB) files
Cable modem 10, 13, 15, 54, 70, 85, 86, 88, 133
Channel 136
Client for Microsoft Networks 73
Composer. *See* Symphony Composer Installation Wizard
Computer Description 108
Computer Name 47, 67, 108. *See also* Host Name
Conductor. *See* Symphony Conductor Sharing Software
Conductr 110
Cordless Connection Test. *See* Test Cordless Connection
Cordless Gateway. *See* Symphony-HRF Cordless Gateway
Cordless Modem. *See* Symphony Cordless Modem
Cordless Network 11–17
  Defined 11
Cordless Network Activity LED 22. *See also* Symphony-HRF Cordless Gateway: LEDs

D

Default printer 101
Detach From Share. *See* Remote Drive Sharing
DHCP
  14, 44, 50, 53, 54, 60, 66, 67, 70, 71, 73, 76, 77, 86, 87, 131
Directory sharing 56, 90
DNS
  Cordless Gateway 45, 64, 65, 86
  Symphony-HRF adapter 81, 85, 109
Domain 108
Domain Name 82
DSL modem 10, 13, 15, 85, 86, 88, 133
Dual Mode 137
Dynamic IP addressing
  Cordless Gateway 66–68
  Symphony-HRF adapter 77–79

E

E-mail 129
EConduct 110
Ethernet Bridge. *See* Symphony Ethernet Bridge
Ethernet LED 22. *See also* Symphony-HRF Cordless Gateway: LEDs

F

FCC 140
File and Printer Sharing 56
  File Sharing 90–96
  Printer Sharing 96–102
Find Computer 132
Firewall 129
Found New Hardware Wizard 32
Frequency hopping. *See* Spread spectrum: Frequency hopping

G

Games 130
Gateway address
  Cordless Gateway 45, 64, 65, 86
  Symphony-HRF adapter 75, 81, 109

H

HomeRF 10, 22, 126, 137
Host Name 45, 67, 68

I

Inactivity Timeout 136
Interference 128
Internal TCP/IP Settings 71
Internet access
  Discussion of 11–17
Internet Service Provider 10, 13, 59, 63, 64, 66, 68, 86, 89, 129
Iomega Zip drive 90
IP address
  Cordless Gateway 14, 45, 53, 54, 60, 64, 65, 70, 71, 72, 86, 89
  Symphony-HRF adapter 81, 89, 109
IPCONFIG 74, 78
IPX/SPX 76, 88, 89, 109
ISDN router 10, 13, 15, 85, 86, 88, 133
ISP. *See* Internet Service Provider
ISP TCP/IP parameters 44, 45, 63–70, 86, 89

L

LAN. *See* Local Area Network
Learn button 23
Limiting Access to a Shared Drive. *See also* File and Print Sharing: File Sharing
Link LED 20, 21, 23, 54, 70, 133. *See also* Symphony-HRF Cordless Gateway: LEDs
Local Area Network 7, 50, 59, 60, 76, 89, 103, 114
Location Switcher icon. *See* Symphony Location Switcher: icon
Logging onto the Network. *See* Network Logon

M

MAC Optimize 136
Maestro. *See* Symphony Maestro Configuration Tool
Mapping a Network Drive 93. *See also* File and Print Sharing: File Sharing
Master 135, 136. *See* Station Type
Master Name 136
Microsoft Digital Signature 33
My Network Places. *See* Network Neighborhood

N

NAT. *See* Network Address Translation
NetBEUI 76, 88, 89, 131
Netscape Navigator 103
Network Activity LED 22. *See also* Symphony-HRF Cordless Gateway: LEDs
Network Address Translation 13, 15, 16, 17, 53, 59, 61, 62, 63, 70, 86, 88, 89, 129, 131
Network Configuration options 11–17
Network Logon 38, 97
Network Neighborhood 98
Network Status 54
New Hardware Found 34

O

OpenAir 10, 22, 126, 135, 136, 137
Original Profile. *See* Profiles
Output power 139

P

Password
  Network 97
  PPPoE 70
  Read Only 92
  Read/Write 92
  Shared resources 92, 129
Power Indicator LED 20, 22, 43, 118, 121, 133. *See also* Symphony-HRF Cordless Gateway: LEDs
PPPoE 14, 46, 50, 53, 63, 69–70, 86, 89, 131
Print Sharing 132. *See* File and Print Sharing: Print Sharing
Printer
  Designating a Default 101
Processors
  Multiple. *See* Windows 2000 Professional: Multiple Processors
Product Package 9–10
Profiles 73–75, 103–114
Protocol Type 108, 137
Proxy Server settings 103, 109

R

Range 128, 139
RangeLAN2 10, 108, 126
RangeLAN2 Card 103, 114
RangeLAN2 Status Monitor 110
Read Only access 47, 90, 91
Read/Write access 47, 90, 91
Registration 49, 58
Remote Drive Sharing 93–100. *See also* File and Print Sharing: File Sharing
Roaming 108

S

Scanner 130
Security
  Home Network 128–129
Security Code 40–41, 43, 52, 56, 108, 115, 126, 128, 133, 137
Security ID 108
Selecting drives and printers to share 56, 90
SETUP.EXE 31, 33, 35, 122. *See also* Symphony Installation program
Sharing drives and directories. *See* File and Print Sharing: File Sharing
Spread spectrum
  Frequency hopping 128, 135, 139
Static IP addressing
  Cordless Gateway 64–66
  Symphony-HRF adapter 79–85
Station 135, 136. *See* Station Type
Station Type 108, 135
Statmon 110
Status LED. *See* Power Indicator LED
Subchannel 136
Subnet mask 84
  Cordless Gateway 45, 64, 65, 72, 86
  Symphony-HRF adapter 81, 109
Switcher icon. *See* Symphony Location Switcher: icon
Switching between Profiles. *See* Profiles
SYMEB375.BIN 120
Symphony Composer Installation Wizard 8, 23, 39–50, 90, 97, 103, 115
  Welcome screen 38
Symphony Conductor Modem Sharing Software 9, 134, 135
Symphony Cordless Modem 115, 134, 135
Symphony Ethernet Bridge 115, 134, 135
Symphony icon 51, 52, 122, 123, 133

Symphony Installation program 36–38
  Customize option 36
Symphony Location Switcher 9, 103–114, 134, 135
  icon 103, 106, 114
  Prompt at Boot-up 48, 104, 113, 114
Symphony Maestro Configuration Tool 9, 51–58, 64, 90, 97, 131, 132, 133
Symphony Network Map 55, 93, 132
Symphony Profile. *See* Profiles
Symphony Upgrade Utility 122–123
Symphony-HRF Cordless Gateway
  Configuration
    Internal TCP/IP settings 70–73
    ISP TCP/IP parameters 63–70
    Topology parameter 62–63
  LEDs 22–24
  Limitation 15, 16, 17, 86, 87, 88, 134
  Placement 20
  Power adapter 20
Symphony-HRF PC Card
  Description 8
Symphony-HRF USB Adapter
  LED 27
  No Windows 95 support 34
  Product description 8
System Tray. *See* Windows: System Tray
System Tray icon. *See* Symphony icon

T

TCP/IP configuration
  Cordless Gateway 14, 53, 76
  Symphony-HRF adapter 50, 60, 73–75, 76–85, 89
Teach button 23, 43
Technical Support 2, 126, 134, 138
Temperature
  Operating 139
Test Cordless Connection 55–56, 132
Topology parameter 60–63, 85, 87, 88
Transparent Bridging 14, 16, 17, 46, 50, 53, 59, 60, 61, 62, 64, 70, 75, 86, 87, 89, 131
  Protocols bridged 60, 89
Troubleshooting suggestions 126–134

U

U.S. Specifications 139–140
UNINSTAL.EXE 124
Update Device Driver Wizard 34
Upgrade
  Cordless Gateway firmware 53, 133
  Symphony software. *See* Symphony Upgrade Utility
UPGRADE.EXE. *See* Symphony Upgrade Utility
USB port 26
User Name
  Network 38, 97
  PPPoE 70

V

Version conflict. *See* Windows: Version conflict
Voltage 8, 25

W

Warranty information 1
Welcome screen. *See also* Symphony Composer Installation Wizard
Windows
  Cabinet (CAB) files 29, 37
  System Tray 49, 51, 52, 106, 122, 123
  Version conflict 37
Windows 2000 Professional 10
  Installation Steps 32–33
  Multiple Processors 32
  Read/Write and Read Only Passwords 91
Windows 2000 Server 10
Windows 95 10
  Installation Steps 34–35
Windows 98 10
  Installation Steps 30–31
Windows ME 10
  Installation Steps 30–31
WINIPCFG 77, 78
WINS 109
Workgroup 73, 108